# The Geological Society of America Bulletin
# Subject Index to Volume 104, No.1-12, 1992


**absolute age** *see also* geochronology; isotopes

**absolute age—dates**

*corals:* Volcano growth and evolution of the island of Hawaii; with Suppl. Data 92-34
(Moore, James G., *et al.*) 11: 1471

*crystalline rocks:* Chronology of Caledonian high-pressure granulite-facies metamorphism, uplift, and deformation within northern parts of the Western Gneiss region, Norway; with Suppl. Data 92-10
(Dallmeyer, R. D., *et al.*) 4: 444

— $^{40}Ar/^{39}Ar$ thermochronology and thermobarometry of metamorphism, plutonism, and tectonic denudation in the Old Woman Mountains area, California; with Suppl. Data 92-05
(Foster, David A., *et al.*) 2: 176

*granites:* The Newport Fault; Eocene listric normal faultings, mylonitization, and crustal extension in Northeast Washington and Northwest Idaho
(Harms, Tekla A., *et al.*) 6: 745

*igneous rocks:* Deformation and age of the Red Mountain intrusive system (Urad-Henderson molybdenum deposits), Colorado; evidence from paleomagnetic and $^{40}Ar/^{39}Ar$ data
(Geissman, John W., *et al.*) 8: 1031

*metaigneous rocks:* U-Pb geochronology of Archean magmatism and Proterozoic metamorphism in the Quadrilatero Ferrifero, southern Sao Francisco Craton, Brazil
(Machado, N., *et al.*) 9: 1221

*metamorphic rocks:* Eocene tectonics in the Omineca Belt, northern British Columbia, Canada; field, $^{40}Ar$-$^{39}Ar$, and fission track data from the Horseranch Range; with Suppl. Data 92-02
(Plint, H. E., *et al.*) 1: 106

— The P-T-t history of blocks in serpentinite-matrix melange, west-central Baja California; with Suppl. Data 92-01
(Baldwin, Suzanne L., *et al.*) 1: 18

*muscovite:* A structural analysis of the Main Central Thrust zone, Langtang National Park, central Nepal Himalaya
(Macfarlane, A. M., *et al.*) 11: 1389

— Isotopic provenance of Paleogene sandstones from the accretionary core of the Olympic Mountains, Washington; with Suppl. Data 92-04
(Heller, Paul L., *et al.*) 2: 140

*peat:* Utility of radiocarbon-dated stratigraphy in determining late Holocene earthquake recurrence intervals, upper Cook Inlet region, Alaska
(Bartsch-Winkler, Susan B., *et al.*) 6: 684

*plutonic rocks:* Cretaceous metamorphism and plutonism in the Santa Cruz Mountains, Salinian Block, California, and correlation with the southernmost Sierra Nevada
(James, Eric William) 10: 1326

*porphyry:* New age determinations of central Colorado Plateau laccoliths, Utah; recognizing disturbed K-Ar systematics and re-evaluating tectonomagmatic relationships
(Nelson, Stephen T., *et al.*) 12: 1547

*schists:* Structural geology and geochronology of subduction complexes along the margin of Gondwanaland; new data from the Antarctic Peninsula and southernmost Andes; with Suppl. Data 92-32
(Grunow, Anne M., *et al.*) 11: 1497

*sediments:* Improved chronologic resolution of the Hawthorn and the Alum Bluff groups in northern Florida; implications for Miocene chronostratigraphy
(Bryant, J. Daniel, *et al.*) 2: 208

— Quaternary uplift astride the aseismic Cocos Ridge, Pacific Coast, Costa Rica
(Gardner, Thomas W., *et al.*) 2: 219

*volcanic rocks:* Time-stratigraphic framework for the Eocene-Oligocene Mogollon-Datil volcanic field, Southwest New Mexico
(McIntosh, William C., *et al.*) 7: 851

*zircon:* Middle Proterozoic geologic evolution of Llano Uplift, Texas; evidence from U-Pb zircon geochronometry
(Walker, Nicholas) 4: 494

— The Wathaman Batholith; an early Proterozoic continental arc in the Trans-Hudson orogenic belt, Canada
(Meyer, Michael T., *et al.*) 9: 1073

— Uranium-lead ages from the Dun Mountain ophiolite belt and Brook Street Terrane, South Island, New Zealand
(Kimbrough, David L., *et al.*) 4: 429

**acoustical surveys** *see under* geophysical surveys *under* Caribbean Sea

**Africa** *see also* Egypt; Malawi

**Alaska—earthquakes**

*paleoseismicity:* Utility of radiocarbon-dated stratigraphy in determining late Holocene earthquake recurrence intervals, upper Cook Inlet region, Alaska
(Bartsch-Winkler, Susan B., *et al.*) 6: 684

**Alaska—geochronology**

*Holocene:* Utility of radiocarbon-dated stratigraphy in determining late Holocene earthquake recurrence intervals, upper Cook Inlet region, Alaska
(Bartsch-Winkler, Susan B., *et al.*) 6: 684

*Pleistocene:* Aminostratigraphy of Pliocene-Pleistocene high–sea-level deposits, Nome coastal plain and adjacent nearshore area, Alaska
(Kaufman, Darrell S.) 1: 40

*Pliocene:* Aminostratigraphy of Pliocene-Pleistocene high–sea-level deposits, Nome coastal plain and adjacent nearshore area, Alaska
(Kaufman, Darrell S.) 1: 40

**Alaska—geophysical surveys**

*heat flow:* Heat flow and subsurface temperature as evidence for basin-scale ground-water flow, North Slope of Alaska
(Deming, David, *et al.*) 5: 528

**Alaska—stratigraphy**

*changes of level:* Aminostratigraphy of Pliocene-Pleistocene high–sea-level deposits, Nome coastal plain and adjacent nearshore area, Alaska
(Kaufman, Darrell S.) 1: 40

**algae—stromatolites**

*Proterozoic:* Stromatolites of the Mescal Limestone (Apache Group, middle Proterozoic, central Arizona); taxonomy, biostratigraphy, and paleoenvironments
(Bertrand-Sarfati, Janine, *et al.*) 9: 1138

**algal flora—diatom flora**

*Pleistocene:* The Yerba Buena mud; record of the last-interglacial predecessor of San Francisco Bay, California
(Sloan, Doris) 6: 716

**algal flora—nannofossils**

*Pliocene:* Closure of the Isthmus of Panama; the near-shore marine record of Costa Rica and western Panama
(Coates, Anthony G., *et al.*) 7: 814

**alkali basalts** *see under* igneous rocks

**Alps** *see also* the individual countries

**Alps—petrology**

*metamorphic rocks:* From oceanic closure to continental collision; a synthesis of the "schistes lustres" metamorphic complex of the Western Alps
(Deville, Eric, *et al.*) 2: 127

**Alps—structural geology**

*structural analysis:* Forethrusting, backfolding, and lateral gravitational escape in the northern part of the Western Alps (Monte Rosa region)
(Ring, Uwe, *et al.*) 7: 901

**ancient ice ages** *see under* glacial geology

**Andes** *see also* the individual countries

**Andes—geochemistry**

*trace elements:* Orbicular volcanic rocks of Cerro Panizos; their origin and implications for orb formation
(Ort, Michael H.) 8: 1048

**Andes—structural geology**
*structural analysis:* Structural geology and geochronology of subduction complexes along the margin of Gondwanaland; new data from the Antarctic Peninsula and southernmost Andes; with Suppl. Data 92-32
(Grunow, Anne M., *et al.*) 11: 1497

**Andes—tectonophysics**
*plate tectonics:* Late Paleozoic to Triassic evolution of the Gondwana margin; evidence from Chilean Frontal Cordilleran batholiths (28°S to 31°S); with Suppl. Data 92-22
(Mpodozis, Constantino, *et al.*) 8: 999

**Antarctic Ocean—tectonophysics**
*plate tectonics:* Structural geology and geochronology of subduction complexes along the margin of Gondwanaland; new data from the Antarctic Peninsula and southernmost Andes; with Suppl. Data 92-32
(Grunow, Anne M., *et al.*) 11: 1497

**Antarctica—structural geology**
*structural analysis:* Structural geology and geochronology of subduction complexes along the margin of Gondwanaland; new data from the Antarctic Peninsula and southernmost Andes; with Suppl. Data 92-32
(Grunow, Anne M., *et al.*) 11: 1497

**Appalachians** *see also* the individual states and provinces

**Appalachians—geochronology**
*Carboniferous:* An Appalachian isochron; a kaolinized Carboniferous airfall volcanic-ash deposit (tonstein)
(Lyons, Paul C., *et al.*) 11: 1515

**Appalachians—sedimentary petrology**
*diagenesis:* Eustatic control on early dolomitization of cyclic peritidal carbonates; evidence from the Early Ordovician upper Knox Group, Appalachians
(Montanez, Isabel P., *et al.*) 7: 872

**Arabian Peninsula** *see also* Saudi Arabia

**Archean** *see also under* stratigraphy *under* Western Australia

**Arctic region** *see also* the individual countries; Spitsbergen

**Arizona—geophysical surveys**
*seismic surveys:* The Bagdad Reflection Sequence as tabular mafic intrusions; evidence from seismic modeling of mapped exposures
(Litak, Robert K., *et al.*) 10: 1315

**Arizona—petrology**
*volcanism:* Jurassic ash-flow sheets, calderas, and related intrusions of the Cordilleran volcanic arc in southeastern Arizona; implications for regional tectonics and ore deposits
(Lipman, Peter W., *et al.*) 1: 32

**Arizona—stratigraphy**
*Proterozoic:* Stromatolites of the Mescal Limestone (Apache Group, middle Proterozoic, central Arizona); taxonomy, biostratigraphy, and paleoenvironments
(Bertrand-Sarfati, Janine, *et al.*) 9: 1138

**Arizona—structural geology**
*faults:* The Chaparral shear zone; deformation partitioning and heterogeneous bulk crustal shortening during Proterozoic orogeny in central Arizona
(Bergh, Steffen G., *et al.*) 3: 329

**Arizona—tectonophysics**
*crust:* The Bagdad Reflection Sequence as tabular mafic intrusions; evidence from seismic modeling of mapped exposures
(Litak, Robert K., *et al.*) 10: 1315

**Asia** *see also* Himalayas; Japan; Nepal; Pakistan

**Atlantic Coastal Plain—stratigraphy**
*changes of level:* Clastic sequences developed during late Quaternary glacio-eustatic sea-level fluctuations on a passive margin; example from the inner continental shelf near Barnegat Inlet, New Jersey: Discussion
(Thomas, Mark A.) 10: 1386
— Clastic sequences developed during late Quaternary glacio-eustatic sea-level fluctuations on a passive margin; example from the inner continental shelf near Barnegat Inlet, New Jersey: Reply
(Ashley, Gail M., *et al.*) 10: 1387

**Atlantic Ocean** *see also* Caribbean Sea; Gulf of Mexico

**Atlantic Ocean—geophysical surveys**
*seismic surveys:* Seismic boundaries of the eastern central Atlantic Mesozoic crust from multichannel seismic data
(Banda, E., *et al.*) 10: 1340

**Atlantic Ocean—oceanography**
*sedimentation:* Glacial geology of western Hudson Strait, Canada, with reference to Laurentide ice sheet dynamics
(Laymon, Charles A.) 9: 1169
— Shallow-burial diagenesis of deep-water carbonates, northern Bahamas; results from deep-ocean drilling transects
(Dix, George R., *et al.*) 3: 303

**Atlantic Ocean—stratigraphy**
*Neogene:* Integrated sequence stratigraphy of Neogene deposits, New Jersey continental shelf and slope; comparison with the Exxon model
(Greenlee, Stephen M., *et al.*) 11: 1403

**Atlantic Ocean—tectonophysics**
*crust:* Seismic boundaries of the eastern central Atlantic Mesozoic crust from multichannel seismic data
(Banda, E., *et al.*) 10: 1340

**Atlantic Ocean Islands** *see also* Bermuda

**Atlantic region** *see also* the individual countries

**atolls** *see* reefs *under* oceanography *under* Hawaii

**Australasia** *see also* New Zealand

**Australia** *see also* New South Wales; Queensland; Western Australia

**automatic data processing** *see* data processing

**Bahamas—sedimentary petrology**
*diagenesis:* Shallow-burial diagenesis of deep-water carbonates, northern Bahamas; results from deep-ocean drilling transects
(Dix, George R., *et al.*) 3: 303

**Baltic region** *see also* the individual countries

**basalts** *see under* igneous rocks

**Basin and Range Province—tectonophysics**
*crust:* A relation among geology, tectonics, and velocity structure, western to central Nevada Basin and Range
(Catchings, R. D.) 9: 1178

**batholiths** *see under* intrusions

**Bermuda—geochronology**
*Pleistocene:* Aminostratigraphy and ages of Pleistocene limestones of Bermuda; with Suppl. Data 92-07
(Hearty, Paul J., *et al.*) 4: 471

**biogeography—Pliocene**
*Panama:* Closure of the Isthmus of Panama; the near-shore marine record of Costa Rica and western Panama
(Coates, Anthony G., *et al.*) 7: 814

**biography—general**
*Carmichael, Ian:* Presentation of the Arthur L. Day Medal to Ian Carmichael
(Stolper, Edward M., *et al.*) 3: 348
*Curtis, Doris M.:* Tribute to Doris M. Curtis, 1991 GSA president
(Price, Raymond A.) 3: 253
*Dahlstrom, Clinton D. A.:* Presentation of the Structural Geology and Tectonics Division Career Contribution Award to Clinton D. A. Dahlstrom
(Boyer, Steven E., *et al.*) 3: 376
*Dickinson, William R.:* Presentation of the Penrose Medal to William R. Dickinson
(Lipman, Peter W., *et al.*) 3: 347
*Ferm, John C.:* Presentation of the Gilbert H. Cady Award to John C. Ferm
(Ehrlich, Robert, *et al.*) 3: 355
*Guest, John E.:* Presentation of the G. K. Gilbert Award to John E. Guest
(Greeley, Ronald, *et al.*) 3: 371
*Iverson, Richard M.:* Presentation of the E. B. Burwell, Jr., Award to Richard M. Iverson and Jon J. Major
(Costa, John E., *et al.*) 3: 362
*Major, Jon J.:* Presentation of the E. B. Burwell, Jr., Award to Richard M. Iverson and Jon J. Major
(Costa, John E., *et al.*) 3: 362
*Neuzil, Christopher E.:* Presentation of the O. E. Meinzer Award to Christopher E. Neuzil
(Wolff, Roger G., *et al.*) 3: 369

*Pavich, Milan J.:* Presentation of the Kirk Bryan Award to Milan J. Pavich
(Colman, Steven M., *et al.*) 3: 373
*Sarjeant, William Antony Swithin:* Presentation of the History of Geology Division Award to William Antony Swithin Sarjeant
(Aldrich, Michele L., *et al.*) 3: 367
*Schwarcz, Henry P.:* Presentation of the Archaeological Geology Division Award to Henry P. Schwarcz
(Blackwell, Bonnie A., *et al.*) 3: 352
*Sleep, Norman H.:* Presentation of the George P. Woollard Award to Norman H. Sleep
(Gordon, Richard G., *et al.*) 3: 365
*Wernicke, Brian Philip:* Presentation of the Young Scientist Award (Donath Medal) to Brian Philip Wernicke
(Davis, Gregory A., *et al.*) 3: 350
**Brazil—geochronology**
*Precambrian:* U-Pb geochronology of Archean magmatism and Proterozoic metamorphism in the Quadrilatero Ferrifero, southern Sao Francisco Craton, Brazil
(Machado, N., *et al.*) 9: 1221
**British Columbia—geochronology**
*Eocene:* Eocene tectonics in the Omineca Belt, northern British Columbia, Canada; field, $^{40}Ar$-$^{39}Ar$, and fission track data from the Horseranch Range; with Suppl. Data 92-02
(Plint, H. E., *et al.*) 1: 106
**burrows** *see* ichnofossils
**California—geochemistry**
*trace elements:* Nd-Sr isotopic, geochemical, and petrographic stratigraphy and paleotectonic analysis; Mesozoic Great Valley forearc sedimentary rocks of California
(Linn, Anne M., *et al.*) 10: 1264
— Tectonic implications of isotopic variation among Jurassic and Early Cretaceous plutons, Klamath Mountains
(Barnes, Calvin G., *et al.*) 1: 117
**California—geochronology**
*absolute age:* $^{40}Ar/^{39}Ar$ thermochronology and thermobarometry of metamorphism, plutonism, and tectonic denudation in the Old Woman Mountains area, California; with Suppl. Data 92-05
(Foster, David A., *et al.*) 2: 176
*Cretaceous:* Cretaceous metamorphism and plutonism in the Santa Cruz Mountains, Salinian Block, California, and correlation with the southernmost Sierra Nevada
(James, Eric William) 10: 1326
**California—geomorphology**
*eolian features:* Lee-face airflow, surface processes, and stratification types; their significance for refining the use of eolian cross-strata as paleocurrent indicators
(Sweet, M. L.) 11: 1528
*fluvial features:* The influence of debris-flow rheology on fan morphology, Owens Valley, California
(Whipple, Kelin X., *et al.*) 7: 887
— The Trollheim alluvial fan and facies model revisited
(Blair, Terence C., *et al.*) 6: 762
**California—geophysical surveys**
*remote sensing:* Lava-flow characterization at Pisgah volcanic field, California, with multiparameter imaging radar
(Gaddis, Lisa R.) 6: 695
**California—petrology**
*lava:* Crease structures; indicators of emplacement rates and surface stress regimes of lava flows; with Suppl. Data 92-12
(Anderson, Steven W., *et al.*) 5: 615
— Plagioclase mantles on sanidine in silicic lavas, Clear Lake, California; implications for the origin of rapakivi texture
(Stimac, James A., *et al.*) 6: 728
*metamorphic rocks:* The Sullivan Creek Terrane; a composite Jurassic arc assemblage, western Sierra Nevada metamorphic belt, California; with Suppl. Data 92-29
(Herzig, Charles T., *et al.*) 10: 1292
*volcanism:* Incorporation and redistribution of locally derived lithic fragments within a pyroclastic flow; with Suppl. Data 92-28
(Buesch, David C.) 9: 1193
**California—soils**
*pedogenesis:* The mass balance of soil evolution on late Quaternary marine terraces, Northern California; with Suppl. Data 92-30
(Merritts, Dorothy J., *et al.*) 11: 1456
**California—stratigraphy**
*Cambrian:* Depositional and sequence stratigraphic framework of the Lower Cambrian Zabriskie Quartzite; implications for regional correlations and the Early Cambrian paleogeography of the Death Valley region of California and Nevada
(Prave, Anthony R.) 5: 505
*changes of level:* The Yerba Buena mud; record of the last-interglacial predecessor of San Francisco Bay, California
(Sloan, Doris) 6: 716
*Miocene:* Evolution of a Miocene half-graben basin, Colorado River extensional corridor, southeastern California
(Fedo, Christopher M., *et al.*) 4: 481
— Miocene biostratigraphy and biochronology of the Dove Spring Formation, Mojave Desert, California, and characterization of the Clarendonian mammal age (late Miocene) in California
(Whistler, David P., *et al.*) 6: 644
*Mississippian:* Paleogeographic and structural significance of an Upper Mississippian facies boundary in southern Nevada and east-central California: Discussion
(Snow, J. Kent) 8: 1067
— Paleogeographic and structural significance of an Upper Mississippian facies boundary in southern Nevada and east-central California: Reply
(Stevens, Calvin H., *et al.*) 8: 1069
*Pleistocene:* The Yerba Buena mud; record of the last-interglacial predecessor of San Francisco Bay, California
(Sloan, Doris) 6: 716
*Pliocene:* Magnetostratigraphy and tephrochronology of an upper Pliocene to Holocene record in lake sediments at Tulelake, Northern California; with Suppl. Data 92-09
(Rieck, Hugh J., *et al.*) 4: 409
*Quaternary:* Magnetostratigraphy and tephrochronology of an upper Pliocene to Holocene record in lake sediments at Tulelake, Northern California; with Suppl. Data 92-09
(Rieck, Hugh J., *et al.*) 4: 409
**California—structural geology**
*faults:* Brittle faulting induced by ductile deformation of a rheologically stratified rock sequence, Badwater Turtleback, Death Valley, California
(Miller, Martin G.) 10: 1376
— Structural and stratigraphic development of the Whipple-Chemehuevi detachment fault system, southeastern California; implications for the geometrical evolution of domal and basinal low-angle normal faults
(Yin, An, *et al.*) 6: 659
*neotectonics:* A revised configuration of the Southern California Uplift
(Castle, Robert O., *et al.*) 12: 1577
*orogeny:* Large-magnitude Permian shortening and continental margin tectonics in the southern Cordillera
(Snow, J. Kent) 1: 80
**California—tectonophysics**
*plate tectonics:* Subduction zone infancy; examples from the Eocene Izu-Bonin-Mariana and Jurassic California arcs
(Stern, Robert J., *et al.*) 12: 1621
**Cambrian** *see also under* stratigraphy *under* California; Nevada
**Canada** *see also* Appalachians; Atlantic Coastal Plain; British Columbia; Canadian Shield; Great Lakes region; Northwest Territories; Rocky Mountains; Saskatchewan
**Canada—geomorphology**
*glacial geology:* Glacial geology of western Hudson Strait, Canada, with reference to Laurentide ice sheet dynamics
(Laymon, Charles A.) 9: 1169
**Canadian Shield—tectonophysics**
*crust:* The Proterozoic Fort Simpson structural trend in northwestern Canada
(Cook, Frederick A., *et al.*) 9: 1121

**carbon—C-13/C-12**
*rhythmite:* Regional isotopic variations in the Fort Hays Member of the Niobrara Formation, United States Western Interior; primary signals and diagenetic overprinting in a Cretaceous pelagic rhythmite; with Suppl. Data 92-21
(Laferriere, Alan P.) 8: 980

**carbonate rocks** *see under* sedimentary rocks

**Carboniferous** *see also* Pennsylvanian; *see also under* geochronology *under* Appalachians; Kentucky; West Virginia

**Caribbean region** *see also* the individual countries

**Caribbean region—tectonophysics**
*plate tectonics:* Origin of the Central American ophiolites; evidence from paleomagnetic results; with Suppl. Data 92-24
(Frisch, Wolfgang, *et al.*) 10: 1301

**Caribbean Sea—geophysical surveys**
*acoustical surveys:* Megabreccia shedding from modern, low-relief carbonate platforms, Nicaraguan Rise
(Hine, Albert C., *et al.*) 8: 928

**Caribbean Sea—oceanography**
*ocean floors:* Megabreccia shedding from modern, low-relief carbonate platforms, Nicaraguan Rise
(Hine, Albert C., *et al.*) 8: 928

**Carpathians** *see also* the individual countries

**Central America** *see also* Costa Rica; Panama

**Central America—tectonophysics**
*plate tectonics:* Origin of the Central American ophiolites; evidence from paleomagnetic results; with Suppl. Data 92-24
(Frisch, Wolfgang, *et al.*) 10: 1301

**changes of level** *see also under* geomorphology *under* Spitsbergen; *see also under* stratigraphy *under* Alaska; Atlantic Coastal Plain; California; Costa Rica; Gulf Coastal Plain

**Chile—geochemistry**
*trace elements:* Late Paleozoic to Triassic evolution of the Gondwana margin; evidence from Chilean Frontal Cordilleran batholiths (28°S to 31°S); with Suppl. Data 92-22
(Mpodozis, Constantino, *et al.*) 8: 999

**China** *see also* Xinjiang

**clastic rocks** *see under* sedimentary rocks

**clastic sediments** *see under* sediments

**climate, ancient** *see* paleoclimatology

**Colorado—economic geology**
*metal ores:* Lead isotopic compositions and paleohydrology of caldera-related epithermal veins, Lake City, Colorado
(Sanford, Richard F.) 10: 1236
*molybdenum ores:* Deformation and age of the Red Mountain intrusive system (Urad-Henderson molybdenum deposits), Colorado; evidence from paleomagnetic and $^{40}Ar/^{39}Ar$ data
(Geissman, John W., *et al.*) 8: 1031

**Colorado—geochemistry**
*trace elements:* Origin and chemical evolution of the 1360 Ma San Isabel Batholith, Wet Mountains, Colorado; a mid-crustal granite of anorogenic affinities; with Suppl. Data 92-06
(Cullers, Robert L., *et al.*) 3: 316

**Colorado—geochronology**
*Oligocene:* Deformation and age of the Red Mountain intrusive system (Urad-Henderson molybdenum deposits), Colorado; evidence from paleomagnetic and $^{40}Ar/^{39}Ar$ data
(Geissman, John W., *et al.*) 8: 1031

**Colorado—tectonophysics**
*heat flow:* Thermal maturity patterns of Cretaceous and Tertiary rocks, San Juan Basin, Colorado and New Mexico
(Law, B. E.) 2: 192

**Colorado Plateau** *see also* the individual states

**Colorado Plateau—geochronology**
*Tertiary:* New age determinations of central Colorado Plateau laccoliths, Utah; recognizing disturbed K-Ar systematics and re-evaluating tectonomagmatic relationships
(Nelson, Stephen T., *et al.*) 12: 1547

**Columbia Plateau** *see also* the individual states

**Columbia Plateau—petrology**
*lava:* Eruption and emplacement of flood basalt; an example from the large-volume Teepee Butte Member, Columbia River Basalt Group
(Reidel, Stephen P., *et al.*) 12: 1650

**Commonwealth of Independent States** *see* USSR

**conglomerate** *see also under* clastic rocks *under* sedimentary rocks

**conodonts—biostratigraphy**
*Paleozoic:* Paleozoic and Mesozoic stratigraphy of the Peshawar Basin, Pakistan; correlations and implications
(Pogue, Kevin R., *et al.*) 8: 915
— Roberts Mountains thrust relationships in a critical area, northern Sulphur Spring Range, Nevada
(Johnson, J. G., *et al.*) 9: 1208

**continental drift** *see also* plate tectonics; *see also under* tectonophysics *under* Gulf of Mexico

**continental drift—Gondwana**
*Chile:* Late Paleozoic to Triassic evolution of the Gondwana margin; evidence from Chilean Frontal Cordilleran batholiths (28°S to 31°S); with Suppl. Data 92-22
(Mpodozis, Constantino, *et al.*) 8: 999

**continental margin** *see also under* oceanography *under* New Jersey

**continental shelf** *see also under* oceanography *under* New Jersey

**coral reefs** *see* reefs

**Costa Rica—stratigraphy**
*changes of level:* Quaternary uplift astride the aseismic Cocos Ridge, Pacific Coast, Costa Rica
(Gardner, Thomas W., *et al.*) 2: 219
*Pliocene:* Closure of the Isthmus of Panama; the near-shore marine record of Costa Rica and western Panama
(Coates, Anthony G., *et al.*) 7: 814

**Costa Rica—structural geology**
*neotectonics:* Quaternary uplift astride the aseismic Cocos Ridge, Pacific Coast, Costa Rica
(Gardner, Thomas W., *et al.*) 2: 219

**Costa Rica—tectonophysics**
*paleomagnetism:* Origin of the Central American ophiolites; evidence from paleomagnetic results; with Suppl. Data 92-24
(Frisch, Wolfgang, *et al.*) 10: 1301

**Cretaceous** *see also under* geochronology *under* California; *see also under* stratigraphy *under* Montana; New Mexico; Western Interior

**crust** *see also under* geochemistry *under* Egypt; *see also under* tectonophysics *under* Arizona; Atlantic Ocean; Basin and Range Province; Canadian Shield; Nevada; Utah

**crystal chemistry** *see also* crystal growth; minerals

**crystal growth** *see also* minerals

**crystal growth—framework silicates, plagioclase**
*overgrowths:* Plagioclase mantles on sanidine in silicic lavas, Clear Lake, California; implications for the origin of rapakivi texture
(Stimac, James A., *et al.*) 6: 728

**crystal structure** *see also* crystal growth; minerals

**dacites** *see under* igneous rocks

**data processing—geomorphology**
*glacial geology:* Numerical modeling of the development of U-shaped valleys by glacial erosion
(Harbor, Jonathan M.) 10: 1364

**data processing—hydrogeology**
*ground water:* On the relationship between river-basin geomorphology, aquifer hydraulics, and ground-water flow direction in alluvial aquifers
(Larkin, Randall G., *et al.*) 12: 1608

**deformation** *see also* structural analysis

**deformation—field studies**
*brittle deformation:* Brittle faulting induced by ductile deformation of a rheologically stratified rock sequence, Badwater Turtleback, Death Valley, California
(Miller, Martin G.) 10: 1376
— Deformation of a foreland carbonate thrust system, Sawtooth Range, Montana
(Holl, James E., *et al.*) 8: 944

*ductile deformation:* Basement-cover relations, Sevier orogenic belt, northern Utah
(Yonkee, W. Adolph) 3: 280
*shear:* Footwall deformation along Willard Thrust, Sevier orogenic belt; implications for mechanisms, timing, and kinematics
(Evans, James P., *et al.*) 5: 516
— The Chaparral shear zone; deformation partitioning and heterogeneous bulk crustal shortening during Proterozoic orogeny in central Arizona
(Bergh, Steffen G., *et al.*) 3: 329
*shear strain:* Forethrusting, backfolding, and lateral gravitational escape in the northern part of the Western Alps (Monte Rosa region)
(Ring, Uwe, *et al.*) 7: 901

**deposition of ores** *see* mineral deposits, genesis

**deuterium** *see also* hydrogen

**deuterium—geochemistry**
*sandstone:* Isotopic provenance of Paleogene sandstones from the accretionary core of the Olympic Mountains, Washington; with Suppl. Data 92-04
(Heller, Paul L., *et al.*) 2: 140

**Devonian** *see also under* stratigraphy *under* Montana; Rocky Mountains

**diagenesis** *see also* sedimentation

**diagenesis—dolomitization**
*controls:* Eustatic control on early dolomitization of cyclic peritidal carbonates; evidence from the Early Ordovician upper Knox Group, Appalachians
(Montanez, Isabel P., *et al.*) 7: 872
*indicators:* Fluid-inclusion studies of regionally extensive epigenetic dolomites, Bonneterre Dolomite (Cambrian), Southeast Missouri; evidence of multiple fluids during dolomitization and lead-zinc mineralization; with Suppl. Data 92-18
(Shelton, Kevin L., *et al.*) 6: 675

**diagenesis—environment**
*slope environment:* Shallow-burial diagenesis of deep-water carbonates, northern Bahamas; results from deep-ocean drilling transects
(Dix, George R., *et al.*) 3: 303

**diagenesis—geochemistry**
*stable isotopes:* Regional isotopic variations in the Fort Hays Member of the Niobrara Formation, United States Western Interior; primary signals and diagenetic overprinting in a Cretaceous pelagic rhythmite; with Suppl. Data 92-21
(Laferriere, Alan P.) 8: 980

**diastrophism** *see* orogeny

**diatom flora** *see under* algal flora

**differentiation** *see under* magmas

**dolomitization** *see under* diagenesis

**earthquakes** *see under* Alaska; seismology; USSR; *see also* seismology

**Eastern Hemisphere** *see also* Antarctic Ocean; Antarctica; Atlantic Ocean; USSR

**Eastern U.S.** *see also* Florida; Maine; Maryland; New Hampshire; New Jersey; New York; Pennsylvania; Virginia; West Virginia

**Egypt—geochemistry**
*crust:* Common Pb systematics of Precambrian granitic rocks of the Nubian Shield (Egypt) and tectonic implications
(Sultan, M., *et al.*) 4: 456

**engineering geology** *see also* deformation; geodesy; ground water; mining geology; rock mechanics

**England—geomorphology**
*fluvial features:* Flood alluviation and entrenchment; Holocene valley-floor development and transformation in the British uplands
(Macklin, Mark G., *et al.*) 6: 631

**Eocene** *see also under* geochronology *under* British Columbia; Idaho; Pyrenees; Spain; Washington

**eolian features** *see under* geomorphology

**epeirogeny** *see also* orogeny

**eruptive rocks** *see* igneous rocks

**Europe** *see also* Alps; England; France; Norway; Pyrenees; Scotland; Spain; Switzerland; Wales

**Far East** *see also* the individual countries

**faulting** *see* faults

**faults** *see also* folds; *see also under* structural geology *under* Arizona; California; Nevada; New Jersey; North America; Pennsylvania; Pyrenees; Spain

**faults—displacements**
*detachment faults:* Structural and stratigraphic development of the Whipple-Chemehuevi detachment fault system, southeastern California; implications for the geometrical evolution of domal and basinal low-angle normal faults
(Yin, An, *et al.*) 6: 659
*normal faults:* History and kinematics of Cenozoic extension in the northern Toiyabe Range, Lander County, Nevada
(Smith, David Lee) 7: 789
— Prevolcanic extensional Seaman breakaway fault and its geologic implications for eastern Nevada and western Utah
(Taylor, Wanda J., *et al.*) 3: 255
— The Newport Fault; Eocene listric normal faultings, mylonitization, and crustal extension in Northeast Washington and Northwest Idaho
(Harms, Tekla A., *et al.*) 6: 745
*overthrust faults:* The "Piermont Allochthon" in the Littleton-Moosilauke area of west-central New Hampshire: Alternative interpretation
(Billings, Marland P.) 11: 1539
— The "Piermont Allochthon" in the Littleton-Moosilauke area of west-central New Hampshire: Alternative interpretation: Reply
(Moench, Robert H.) 11: 1541
*reactivation:* Sedimentary record and climatic implications of recurrent deformation in the Tian Shan; evidence from Mesozoic strata of the north Tarim, south Junggar, and Turpan basins, Northwest China
(Hendrix, Marc S., *et al.*) 1: 53
— Structural and stratigraphic development of the Newark extensional basin, eastern North America; evidence for the growth of the basin and its bounding structures
(Schlische, Roy W.) 10: 1246
*strike-slip faults:* Eocene tectonics in the Omineca Belt, northern British Columbia, Canada; field, $^{40}Ar$-$^{39}Ar$, and fission track data from the Horseranch Range; with Suppl. Data 92-02
(Plint, H. E., *et al.*) 1: 106
*thrust faults:* A structural analysis of the Main Central Thrust zone, Langtang National Park, central Nepal Himalaya
(Macfarlane, A. M., *et al.*) 11: 1389
— Basement-cover relations, Sevier orogenic belt, northern Utah
(Yonkee, W. Adolph) 3: 280
— Coeval hindward- and forward-imbricating thrusting in the south-central Pyrenees, Spain; timing and rates of shortening and deposition
(Burbank, Douglas W., *et al.*) 1: 3
— Deformation of a foreland carbonate thrust system, Sawtooth Range, Montana
(Holl, James E., *et al.*) 8: 944
— Footwall deformation along Willard Thrust, Sevier orogenic belt; implications for mechanisms, timing, and kinematics
(Evans, James P., *et al.*) 5: 516
— Forethrusting, backfolding, and lateral gravitational escape in the northern part of the Western Alps (Monte Rosa region)
(Ring, Uwe, *et al.*) 7: 901
— Large-magnitude Permian shortening and continental margin tectonics in the southern Cordillera
(Snow, J. Kent) 1: 80
— Mesozoic and Cenozoic deformation inferred from seismic stratigraphy in the southwestern intracontinental Palmyride fold-thrust belt, Syria
(Chaimov, Thomas A., *et al.*) 6: 704
— Paleogeographic and structural significance of an Upper Mississippian facies boundary in southern Nevada and east-central California: Discussion
(Snow, J. Kent) 8: 1067
— Paleogeographic and structural significance of an Upper Mississippian facies boundary in southern Nevada and east-central California: Reply
(Stevens, Calvin H., *et al.*) 8: 1069

— Paleomagnetic study of thrust-sheet motion along the Rocky Mountain front in Montana
(Jolly, Arthur D., *et al.*) 6: 779
— Roberts Mountains thrust relationships in a critical area, northern Sulphur Spring Range, Nevada
(Johnson, J. G., *et al.*) 9: 1208
— Structural and seismic evidence for intracontinental subduction in the Peter the First Range, Central Asia
(Hamburger, Michael W., *et al.*) 4: 397
— The chronology of the Eocene tectonic and stratigraphic development of the eastern Pyrenean foreland basin, Northeast Spain
(Burbank, Douglas W., *et al.*) 9: 1101
— The Proterozoic Fort Simpson structural trend in northwestern Canada
(Cook, Frederick A., *et al.*) 9: 1121

**faults—distribution**
*arcuate faults:* Paleomagnetic data bearing on the origin of arcuate structures in the French Peak-Massachusetts Mountain area of southern Nevada
(Hudson, Mark R.) 5: 581
*oceanic crust:* Seismic boundaries of the eastern central Atlantic Mesozoic crust from multichannel seismic data
(Banda, E., *et al.*) 10: 1340

**faults—effects**
*shear zones:* The Chaparral shear zone; deformation partitioning and heterogeneous bulk crustal shortening during Proterozoic orogeny in central Arizona
(Bergh, Steffen G., *et al.*) 3: 329

**faults—mechanics**
*shear strain:* Brittle faulting induced by ductile deformation of a rheologically stratified rock sequence, Badwater Turtleback, Death Valley, California
(Miller, Martin G.) 10: 1376

**faults—systems**
*rift zones:* Oblique extensional tectonics in the Malawi Rift, Africa; with Suppl. Data 92-23
(Chorowicz, J., *et al.*) 8: 1015

**fission-track dating** *see under* geochronology

**Florida—geochronology**
*Miocene:* Improved chronologic resolution of the Hawthorn and the Alum Bluff groups in northern Florida; implications for Miocene chronostratigraphy
(Bryant, J. Daniel, *et al.*) 2: 208

**fluid inclusions** *see also* inclusions

**fluid inclusions—geologic thermometry**
*microthermometry:* Fluid-inclusion studies of regionally extensive epigenetic dolomites, Bonneterre Dolomite (Cambrian), Southeast Missouri; evidence of multiple fluids during dolomitization and lead-zinc mineralization; with Suppl. Data 92-18
(Shelton, Kevin L., *et al.*) 6: 675

**fluvial features** *see under* geomorphology

**folding** *see* folds

**folds** *see also* faults; foliation

**folds—distribution**
*fold belts:* Mesozoic and Cenozoic deformation inferred from seismic stratigraphy in the southwestern intracontinental Palmyride fold-thrust belt, Syria
(Chaimov, Thomas A., *et al.*) 6: 704

**folds—style**
*anticlines:* Basement-cover relations, Sevier orogenic belt, northern Utah
(Yonkee, W. Adolph) 3: 280
— The Proterozoic Fort Simpson structural trend in northwestern Canada
(Cook, Frederick A., *et al.*) 9: 1121

**foliation** *see also* folds; structural analysis

**foliation—style**
*slip cleavage:* The Sullivan Creek Terrane; a composite Jurassic arc assemblage, western Sierra Nevada metamorphic belt, California; with Suppl. Data 92-29
(Herzig, Charles T., *et al.*) 10: 1292

**foraminifera** *see also* foraminifers

**foraminifers—biostratigraphy**
*Miocene:* Improved chronologic resolution of the Hawthorn and the Alum Bluff groups in northern Florida; implications for Miocene chronostratigraphy
(Bryant, J. Daniel, *et al.*) 2: 208
*Neogene:* Integrated sequence stratigraphy of Neogene deposits, New Jersey continental shelf and slope; comparison with the Exxon model
(Greenlee, Stephen M., *et al.*) 11: 1403
*Pliocene:* Closure of the Isthmus of Panama; the near-shore marine record of Costa Rica and western Panama
(Coates, Anthony G., *et al.*) 7: 814

**foraminifers—paleoecology**
*Pleistocene:* The Yerba Buena mud; record of the last-interglacial predecessor of San Francisco Bay, California
(Sloan, Doris) 6: 716

**fossils** *see* appropriate fossil group

**foundations** *see also* rock mechanics

**fractures—distribution**
*lava flows:* Crease structures; indicators of emplacement rates and surface stress regimes of lava flows; with Suppl. Data 92-12
(Anderson, Steven W., *et al.*) 5: 615
*welded tuff:* Permeability and fracture patterns in extrusive volcanic rocks; implications from the welded Santana Tuff, Trans-Pecos Texas
(Fuller, Carla M., *et al.*) 11: 1485

**France—petrology**
*metamorphic rocks:* From oceanic closure to continental collision; a synthesis of the "schistes lustres" metamorphic complex of the Western Alps
(Deville, Eric, *et al.*) 2: 127

**gas inclusions** *see* fluid inclusions

**genesis of ore deposits** *see* mineral deposits, genesis

**geochronology** *see also* absolute age

**geochronology—fission-track dating**
*apatite:* The P-T-t history of blocks in serpentinite-matrix melange, west-central Baja California; with Suppl. Data 92-01
(Baldwin, Suzanne L., *et al.*) 1: 18
*Eocene:* Eocene tectonics in the Omineca Belt, northern British Columbia, Canada; field, $^{40}Ar$-$^{39}Ar$, and fission track data from the Horseranch Range; with Suppl. Data 92-02
(Plint, H. E., *et al.*) 1: 106

**geochronology—paleomagnetism**
*Eocene:* The chronology of the Eocene tectonic and stratigraphic development of the eastern Pyrenean foreland basin, Northeast Spain
(Burbank, Douglas W., *et al.*) 9: 1101
*Miocene:* Improved chronologic resolution of the Hawthorn and the Alum Bluff groups in northern Florida; implications for Miocene chronostratigraphy
(Bryant, J. Daniel, *et al.*) 2: 208
— Miocene biostratigraphy and biochronology of the Dove Spring Formation, Mojave Desert, California, and characterization of the Clarendonian mammal age (late Miocene) in California
(Whistler, David P., *et al.*) 6: 644
*Oligocene:* Deformation and age of the Red Mountain intrusive system (Urad-Henderson molybdenum deposits), Colorado; evidence from paleomagnetic and $^{40}Ar/^{39}Ar$ data
(Geissman, John W., *et al.*) 8: 1031
*Tertiary:* Coeval hindward- and forward-imbricating thrusting in the south-central Pyrenees, Spain; timing and rates of shortening and deposition
(Burbank, Douglas W., *et al.*) 1: 3

**geochronology—racemization**
*Pleistocene:* Aminostratigraphy and ages of Pleistocene limestones of Bermuda; with Suppl. Data 92-07
(Hearty, Paul J., *et al.*) 4: 471
*Pliocene:* Aminostratigraphy of Pliocene-Pleistocene high–sea-level deposits, Nome coastal plain and adjacent nearshore area, Alaska
(Kaufman, Darrell S.) 1: 40

**geochronology—tephrochronology**
*Carboniferous:* An Appalachian isochron; a kaolinized Carboniferous airfall volcanic-ash deposit (tonstein)
(Lyons, Paul C., *et al.*) 11: 1515
*Cenozoic:* Magnetostratigraphy and tephrochronology of an upper Pliocene to Holocene record in lake sediments at Tulelake, Northern California; with Suppl. Data 92-09
(Rieck, Hugh J., *et al.*) 4: 409

**geochronology—thermoluminescence**
*Pleistocene:* Late Pleistocene surficial stratigraphy and landscape development in the Salamanca Re-entrant, southwestern New York
(Snyder, Kent E., *et al.*) 2: 242

**geodesy—surveys**
*California:* A revised configuration of the Southern California Uplift
(Castle, Robert O., *et al.*) 12: 1577

**geologic thermometry** *see under* fluid inclusions

**geologic time** *see* absolute age; geochronology

**geomorphology** *see also* glacial geology

**geomorphology—eolian features**
*continental dunes:* Lee-face airflow, surface processes, and stratification types; their significance for refining the use of eolian cross-strata as paleocurrent indicators
(Sweet, M. L.) 11: 1528

**geomorphology—fluvial features**
*alluvial fans:* The influence of debris-flow rheology on fan morphology, Owens Valley, California
(Whipple, Kelin X., *et al.*) 7: 887
— The Trollheim alluvial fan and facies model revisited
(Blair, Terence C., *et al.*) 6: 762
*drainage basins:* On the relationship between river-basin geomorphology, aquifer hydraulics, and ground-water flow direction in alluvial aquifers
(Larkin, Randall G., *et al.*) 12: 1608
*gorges:* Bedrock benches and boulder bars; floods in the Burdekin Gorge of Australia; with Suppl. Data 92-14
(Wohl, Ellen E.) 6: 770
*meanders:* Use of alloformations for definition of Holocene meander belts in the middle Amite River, southeastern Louisiana
(Autin, Whitney J.) 2: 233
*valleys:* Flood alluviation and entrenchment; Holocene valley-floor development and transformation in the British uplands
(Macklin, Mark G., *et al.*) 6: 631

**geomorphology—landform evolution**
*landscapes:* Late Pleistocene surficial stratigraphy and landscape development in the Salamanca Re-entrant, southwestern New York
(Snyder, Kent E., *et al.*) 2: 242

**geomorphology—shore features**
*coastlines:* Post-glacial relative sea-level history of northwestern Spitsbergen, Svalbard: Alternative interpretation
(Hequette, Arnaud) 8: 1059
— Post-glacial relative sea-level history of northwestern Spitsbergen, Svalbard: Alternative interpretation: Reply
(Forman, Steven L.) 8: 1064

**geomorphology—volcanic features**
*lava flows:* Lava-flow characterization at Pisgah volcanic field, California, with multiparameter imaging radar
(Gaddis, Lisa R.) 6: 695
*volcanoes:* Volcano growth and evolution of the island of Hawaii; with Suppl. Data 92-34
(Moore, James G., *et al.*) 11: 1471

**geophysical surveys** *see under* Alaska; Arizona; Atlantic Ocean; California; Caribbean Sea; Malawi; *see* acoustical surveys *under* geophysical surveys *under* Caribbean Sea; *see* seismic surveys *under* geophysical surveys *under* Arizona; Atlantic Ocean

**geophysics** *see also* deformation

**geosynclines** *see also* orogeny

**glacial geology** *see also* geomorphology

**glacial geology—ancient ice ages**
*Proterozoic:* Neoproterozoic glaciation in the Broken Hill area, New South Wales, Australia
(Young, Grant M.) 7: 840

**glacial geology—glacial features**
*glacial lakes:* Magnitudes and implications of peak discharges from glacial Lake Missoula
(O'Connor, Jim E., *et al.*) 3: 267

**glacial geology—glaciation**
*deposition:* Late Wisconsinan stratigraphy in the lower Sandy River valley, New Sharon, Maine
(Weddle, Thomas Kirk) 10: 1350
*glacial erosion:* Numerical modeling of the development of U-shaped valleys by glacial erosion
(Harbor, Jonathan M.) 10: 1364
*ice movement:* Glacial geology of western Hudson Strait, Canada, with reference to Laurentide ice sheet dynamics
(Laymon, Charles A.) 9: 1169
— Surface form of the southern Laurentide ice sheet and its implications to ice-sheet dynamics
(Clark, Peter U.) 5: 595

**glacial lakes** *see under* glacial features *under* glacial geology

**glaciation** *see under* glacial geology

**global tectonics** *see* plate tectonics

**Gondwana** *see under* continental drift

**granites** *see under* igneous rocks

**Great Basin** *see also* the individual states

**Great Basin—structural geology**
*tectonics:* Large-magnitude Permian shortening and continental margin tectonics in the southern Cordillera
(Snow, J. Kent) 1: 80

**Great Britain** *see also* England; Scotland; Wales

**Great Lakes region** *see also* the individual states and provinces

**Great Lakes region—geomorphology**
*glacial geology:* Surface form of the southern Laurentide ice sheet and its implications to ice-sheet dynamics
(Clark, Peter U.) 5: 595

**Great Plains** *see also* the individual states and provinces

**ground water** *see also* hydrogeology; hydrology; *see also under* hydrogeology *under* data processing

**ground water—movement**
*alluvium aquifers:* On the relationship between river-basin geomorphology, aquifer hydraulics, and ground-water flow direction in alluvial aquifers
(Larkin, Randall G., *et al.*) 12: 1608
*sedimentary basins:* Heat flow and subsurface temperature as evidence for basin-scale ground-water flow, North Slope of Alaska
(Deming, David, *et al.*) 5: 528

**Gulf Coastal Plain** *see also* the individual states and countries

**Gulf Coastal Plain—stratigraphy**
*changes of level:* Clastic sequences developed during late Quaternary glacio-eustatic sea-level fluctuations on a passive margin; example from the inner continental shelf near Barnegat Inlet, New Jersey: Discussion
(Thomas, Mark A.) 10: 1386
— Clastic sequences developed during late Quaternary glacio-eustatic sea-level fluctuations on a passive margin; example from the inner continental shelf near Barnegat Inlet, New Jersey: Reply
(Ashley, Gail M., *et al.*) 10: 1387

**Gulf of Mexico—tectonophysics**
*continental drift:* Paleomagnetism of the Chiapas Massif, southern Mexico; evidence for rotation of the Maya Block and implications for the opening of the Gulf of Mexico
(Molina-Garza, Roberto S., *et al.*) 9: 1156

**Hawaii—oceanography**
*reefs:* Hydraulic exchange between a coral reef and surface sea water
(Tribble, Gordon W., *et al.*) 10: 1280

**Hawaii—volcanology**
*Hawaii County Hawaii:* Volcano growth and evolution of the island of Hawaii; with Suppl. Data 92-34
(Moore, James G., *et al.*) 11: 1471

**heat flow** *see also under* geophysical surveys *under* Alaska; *see also under* tectonophysics *under* Colorado; New Mexico

**Himalayas** *see also* the individual countries

**Himalayas—structural geology**
*neotectonics:* A structural analysis of the Main Central Thrust zone, Langtang National Park, central Nepal Himalaya
(Macfarlane, A. M., *et al.*) 11: 1389

**Holocene** *see also under* geochronology *under* Alaska; *see also under* stratigraphy *under* Louisiana

**hydrogen** *see also* deuterium

**hydrogen—D/H**
*sandstone:* Isotopic provenance of Paleogene sandstones from the accretionary core of the Olympic Mountains, Washington; with Suppl. Data 92-04
(Heller, Paul L., *et al.*) 2: 140

**hydrogeology** *see also* ground water; hydrology

**hydrogeology—data processing**
*hydrodynamics:* On the relationship between river-basin geomorphology, aquifer hydraulics, and ground-water flow direction in alluvial aquifers
(Larkin, Randall G., *et al.*) 12: 1608

**hydrology** *see also* ground water; hydrogeology

**hydrology—rivers and streams**
*hydraulics:* On the relationship between river-basin geomorphology, aquifer hydraulics, and ground-water flow direction in alluvial aquifers
(Larkin, Randall G., *et al.*) 12: 1608

**Iberian Peninsula** *see also* Spain

**ice ages** *see* glacial geology

**ichnofossils—biostratigraphy**
*Paleozoic:* Paleozoic and Mesozoic stratigraphy of the Peshawar Basin, Pakistan; correlations and implications
(Pogue, Kevin R., *et al.*) 8: 915

**Idaho—geochronology**
*Eocene:* The Newport Fault; Eocene listric normal faultings, mylonitization, and crustal extension in Northeast Washington and Northwest Idaho
(Harms, Tekla A., *et al.*) 6: 745

**Idaho—geomorphology**
*glacial geology:* Magnitudes and implications of peak discharges from glacial Lake Missoula
(O'Connor, Jim E., *et al.*) 3: 267

**Idaho—petrology**
*lava:* Eruption and emplacement of flood basalt; an example from the large-volume Teepee Butte Member, Columbia River Basalt Group
(Reidel, Stephen P., *et al.*) 12: 1650

**Idaho—structural geology**
*tectonics:* The Newport Fault; Eocene listric normal faultings, mylonitization, and crustal extension in Northeast Washington and Northwest Idaho
(Harms, Tekla A., *et al.*) 6: 745

**igneous rocks** *see also* fluid inclusions; inclusions; intrusions; lava; magmas; metamorphic rocks; metasomatism

**igneous rocks—alkali basalts**
*genesis:* The Arabian continental alkali basalt province; Part III, Evolution of Harrat Kishb, Kingdom of Saudi Arabia; with Suppl. Data 92-11
(Camp, Victor E., *et al.*) 4: 379
*hawaiite:* Hawaiites and related lavas in the Atenguillo Graben, western Mexican volcanic belt; with Suppl. Data 92-35
(Righter, Kevin, *et al.*) 12: 1592

**igneous rocks—basalts**
*genesis:* Eruption and emplacement of flood basalt; an example from the large-volume Teepee Butte Member, Columbia River Basalt Group
(Reidel, Stephen P., *et al.*) 12: 1650

**igneous rocks—dacites**
*textures:* Plagioclase mantles on sanidine in silicic lavas, Clear Lake, California; implications for the origin of rapakivi texture
(Stimac, James A., *et al.*) 6: 728

**igneous rocks—granites**
*genesis:* The genesis, ascent, and emplacement of the Northern Arran Granite, Scotland; implications for granitic diapirism
(England, Richard W.) 5: 606
*geochemistry:* Common Pb systematics of Precambrian granitic rocks of the Nubian Shield (Egypt) and tectonic implications
(Sultan, M., *et al.*) 4: 456
*monzogranite:* Origin and chemical evolution of the 1360 Ma San Isabel Batholith, Wet Mountains, Colorado; a mid-crustal granite of anorogenic affinities; with Suppl. Data 92-06
(Cullers, Robert L., *et al.*) 3: 316

**igneous rocks—plutonic rocks**
*geochemistry:* Late Paleozoic to Triassic evolution of the Gondwana margin; evidence from Chilean Frontal Cordilleran batholiths (28°S to 31°S); with Suppl. Data 92-22
(Mpodozis, Constantino, *et al.*) 8: 999
— Tectonic implications of isotopic variation among Jurassic and Early Cretaceous plutons, Klamath Mountains
(Barnes, Calvin G., *et al.*) 1: 117

**igneous rocks—pyroclastics**
*ash-flow tuff:* Jurassic ash-flow sheets, calderas, and related intrusions of the Cordilleran volcanic arc in southeastern Arizona; implications for regional tectonics and ore deposits
(Lipman, Peter W., *et al.*) 1: 32
*ignimbrite:* Effects of topography on facies and compositional zonation in caldera-related ignimbrites
(Valentine, Greg A., *et al.*) 2: 154
*tuff:* Incorporation and redistribution of locally derived lithic fragments within a pyroclastic flow; with Suppl. Data 92-28
(Buesch, David C.) 9: 1193
*welded tuff:* Permeability and fracture patterns in extrusive volcanic rocks; implications from the welded Santana Tuff, Trans-Pecos Texas
(Fuller, Carla M., *et al.*) 11: 1485

**igneous rocks—ultramafics**
*ophiolite:* Origin of the Central American ophiolites; evidence from paleomagnetic results; with Suppl. Data 92-24
(Frisch, Wolfgang, *et al.*) 10: 1301
— Subduction zone infancy; examples from the Eocene Izu-Bonin-Mariana and Jurassic California arcs
(Stern, Robert J., *et al.*) 12: 1621
— Uranium-lead ages from the Dun Mountain ophiolite belt and Brook Street Terrane, South Island, New Zealand
(Kimbrough, David L., *et al.*) 4: 429

**igneous rocks—volcanic rocks**
*chemical composition:* Compositional diversity in late Cenozoic mafic lavas in the Rio Grande Rift and Basin and Range Province, southern New Mexico; with Suppl. Data 92-20
(Anthony, Elizabeth Y., *et al.*) 8: 973
*genesis:* Volcano growth and evolution of the island of Hawaii; with Suppl. Data 92-34
(Moore, James G., *et al.*) 11: 1471
*orbicular texture:* Orbicular volcanic rocks of Cerro Panizos; their origin and implications for orb formation
(Ort, Michael H.) 8: 1048

**ignimbrite** *see under* pyroclastics *under* igneous rocks

**Illinois—sedimentary petrology**
*sedimentary rocks:* Shale facies and mine roof stability; a case study from the Illinois Basin
(Breyer, John A.) 8: 1024

**inclusions** *see also* fluid inclusions

**inclusions—xenoliths**
*amphibolites:* New age determinations of central Colorado Plateau laccoliths, Utah; recognizing disturbed K-Ar systematics and re-evaluating tectonomagmatic relationships
(Nelson, Stephen T., *et al.*) 12: 1547

*ultramafics:* The Arabian continental alkali basalt province; Part III, Evolution of Harrat Kishb, Kingdom of Saudi Arabia; with Suppl. Data 92-11
(Camp, Victor E., *et al.*) 4: 379

**intrusions** *see also* igneous rocks; metamorphism; metasomatism

**intrusions—batholiths**
*crystallization:* The Wathaman Batholith; an early Proterozoic continental arc in the Trans-Hudson orogenic belt, Canada
(Meyer, Michael T., *et al.*) 9: 1073
*emplacement:* Origin and chemical evolution of the 1360 Ma San Isabel Batholith, Wet Mountains, Colorado; a mid-crustal granite of anorogenic affinities; with Suppl. Data 92-06
(Cullers, Robert L., *et al.*) 3: 316
*geochemistry:* Late Paleozoic to Triassic evolution of the Gondwana margin; evidence from Chilean Frontal Cordilleran batholiths (28°S to 31°S); with Suppl. Data 92-22
(Mpodozis, Constantino, *et al.*) 8: 999

**intrusions—distribution**
*basement:* The Bagdad Reflection Sequence as tabular mafic intrusions; evidence from seismic modeling of mapped exposures
(Litak, Robert K., *et al.*) 10: 1315

**intrusions—emplacement**
*calderas:* Jurassic ash-flow sheets, calderas, and related intrusions of the Cordilleran volcanic arc in southeastern Arizona; implications for regional tectonics and ore deposits
(Lipman, Peter W., *et al.*) 1: 32
*periodicity:* Ordovician marine volcanic and sedimentary record of rifting and volcanotectonism; Snowdon, Wales, United Kingdom
(Kokelaar, Peter) 11: 1433

**intrusions—laccoliths**
*absolute age:* New age determinations of central Colorado Plateau laccoliths, Utah; recognizing disturbed K-Ar systematics and re-evaluating tectonomagmatic relationships
(Nelson, Stephen T., *et al.*) 12: 1547

**intrusions—plutons**
*absolute age:* $^{40}Ar/^{39}Ar$ thermochronology and thermobarometry of metamorphism, plutonism, and tectonic denudation in the Old Woman Mountains area, California; with Suppl. Data 92-05
(Foster, David A., *et al.*) 2: 176
*emplacement:* Cretaceous metamorphism and plutonism in the Santa Cruz Mountains, Salinian Block, California, and correlation with the southernmost Sierra Nevada
(James, Eric William) 10: 1326
— Middle Proterozoic geologic evolution of Llano Uplift, Texas; evidence from U-Pb zircon geochronometry
(Walker, Nicholas) 4: 494
— The genesis, ascent, and emplacement of the Northern Arran Granite, Scotland; implications for granitic diapirism
(England, Richard W.) 5: 606
*geochemistry:* Tectonic implications of isotopic variation among Jurassic and Early Cretaceous plutons, Klamath Mountains
(Barnes, Calvin G., *et al.*) 1: 117

**intrusions—stocks**
*mineralization:* Deformation and age of the Red Mountain intrusive system (Urad-Henderson molybdenum deposits), Colorado; evidence from paleomagnetic and $^{40}Ar/^{39}Ar$ data
(Geissman, John W., *et al.*) 8: 1031

**Invertebrata** *see also* ichnofossils

**invertebrates** *see also* conodonts; foraminifers; mollusks

**isotope dating** *see* absolute age

**isotopes** *see also* absolute age; geochronology

**isotopes—igneous rocks**
*monzogranite:* Origin and chemical evolution of the 1360 Ma San Isabel Batholith, Wet Mountains, Colorado; a mid-crustal granite of anorogenic affinities; with Suppl. Data 92-06
(Cullers, Robert L., *et al.*) 3: 316
*plutonic rocks:* Tectonic implications of isotopic variation among Jurassic and Early Cretaceous plutons, Klamath Mountains
(Barnes, Calvin G., *et al.*) 1: 117

**isotopes—lead**
*galena:* Lead isotopic compositions and paleohydrology of caldera-related epithermal veins, Lake City, Colorado
(Sanford, Richard F.) 10: 1236
*ratios:* Common Pb systematics of Precambrian granitic rocks of the Nubian Shield (Egypt) and tectonic implications
(Sultan, M., *et al.*) 4: 456

**isotopes—O-18/O-16**
*marine sediments:* Clastic sequences developed during late Quaternary glacio-eustatic sea-level fluctuations on a passive margin; example from the inner continental shelf near Barnegat Inlet, New Jersey: Discussion
(Thomas, Mark A.) 10: 1386
— Clastic sequences developed during late Quaternary glacio-eustatic sea-level fluctuations on a passive margin; example from the inner continental shelf near Barnegat Inlet, New Jersey: Reply
(Ashley, Gail M., *et al.*) 10: 1387

**isotopes—radon**
*Rn-222:* Hydraulic exchange between a coral reef and surface sea water
(Tribble, Gordon W., *et al.*) 10: 1280

**isotopes—sedimentary rocks**
*rhythmite:* Regional isotopic variations in the Fort Hays Member of the Niobrara Formation, United States Western Interior; primary signals and diagenetic overprinting in a Cretaceous pelagic rhythmite; with Suppl. Data 92-21
(Laferriere, Alan P.) 8: 980
*sandstone:* Isotopic provenance of Paleogene sandstones from the accretionary core of the Olympic Mountains, Washington; with Suppl. Data 92-04
(Heller, Paul L., *et al.*) 2: 140
— Nd-Sr isotopic, geochemical, and petrographic stratigraphy and paleotectonic analysis; Mesozoic Great Valley forearc sedimentary rocks of California
(Linn, Anne M., *et al.*) 10: 1264

**Italy—structural geology**
*structural analysis:* Forethrusting, backfolding, and lateral gravitational escape in the northern part of the Western Alps (Monte Rosa region)
(Ring, Uwe, *et al.*) 7: 901

**Japan—tectonophysics**
*plate tectonics:* Subduction zone infancy; examples from the Eocene Izu-Bonin-Mariana and Jurassic California arcs
(Stern, Robert J., *et al.*) 12: 1621

**Jurassic—stratigraphy**
*paleoclimatology:* Pangaean climate during the Early Jurassic; GCM simulations and the sedimentary record of paleoclimate
(Chandler, Mark A., *et al.*) 5: 543

**Kentucky—geochronology**
*Carboniferous:* An Appalachian isochron; a kaolinized Carboniferous airfall volcanic-ash deposit (tonstein)
(Lyons, Paul C., *et al.*) 11: 1515

**laccoliths** *see under* intrusions

**landform evolution** *see under* geomorphology

**lava** *see also* igneous rocks; magmas

**lava—composition**
*chemical composition:* Compositional diversity in late Cenozoic mafic lavas in the Rio Grande Rift and Basin and Range Province, southern New Mexico; with Suppl. Data 92-20
(Anthony, Elizabeth Y., *et al.*) 8: 973
— Volcano growth and evolution of the island of Hawaii; with Suppl. Data 92-34
(Moore, James G., *et al.*) 11: 1471

**lava—distribution**
*lava flows:* Eruption and emplacement of flood basalt; an example from the large-volume Teepee Butte Member, Columbia River Basalt Group
(Reidel, Stephen P., *et al.*) 12: 1650

**lava—flow mechanism**
*stress:* Crease structures; indicators of emplacement rates and surface stress regimes of lava flows; with Suppl. Data 92-12
(Anderson, Steven W., *et al.*) 5: 615

**lava—geochemistry**
*trace elements:* Hawaiites and related lavas in the Atenguillo Graben, western Mexican volcanic belt; with Suppl. Data 92-35
(Righter, Kevin, *et al.*) 12: 1592

**lava—observations**
*lava flows:* Lava-flow characterization at Pisgah volcanic field, California, with multiparameter imaging radar
(Gaddis, Lisa R.) 6: 695

**lava—petrology**
*lava flows:* The Arabian continental alkali basalt province; Part III, Evolution of Harrat Kishb, Kingdom of Saudi Arabia; with Suppl. Data 92-11
(Camp, Victor E., *et al.*) 4: 379

**lava—properties**
*orbicular texture:* Orbicular volcanic rocks of Cerro Panizos; their origin and implications for orb formation
(Ort, Michael H.) 8: 1048
*textures:* Plagioclase mantles on sanidine in silicic lavas, Clear Lake, California; implications for the origin of rapakivi texture
(Stimac, James A., *et al.*) 6: 728

**lead—isotopes**
*galena:* Lead isotopic compositions and paleohydrology of caldera-related epithermal veins, Lake City, Colorado
(Sanford, Richard F.) 10: 1236
*ratios:* Common Pb systematics of Precambrian granitic rocks of the Nubian Shield (Egypt) and tectonic implications
(Sultan, M., *et al.*) 4: 456

**lead-zinc deposits** *see also under* economic geology *under* Missouri

**lineation** *see also* foliation; structural analysis

**liquid inclusions** *see* fluid inclusions

**Louisiana—stratigraphy**
*Holocene:* Use of alloformations for definition of Holocene meander belts in the middle Amite River, southeastern Louisiana
(Autin, Whitney J.) 2: 233

**magmas** *see also* igneous rocks; intrusions; lava

**magmas—contamination**
*geochemical indicators:* New age determinations of central Colorado Plateau laccoliths, Utah; recognizing disturbed K-Ar systematics and reevaluating tectonomagmatic relationships
(Nelson, Stephen T., *et al.*) 12: 1547

**magmas—differentiation**
*fractional crystallization:* The Arabian continental alkali basalt province; Part III, Evolution of Harrat Kishb, Kingdom of Saudi Arabia; with Suppl. Data 92-11
(Camp, Victor E., *et al.*) 4: 379
*segregation:* Origin and chemical evolution of the 1360 Ma San Isabel Batholith, Wet Mountains, Colorado; a mid-crustal granite of anorogenic affinities; with Suppl. Data 92-06
(Cullers, Robert L., *et al.*) 3: 316

**magmas—evolution**
*island arcs:* Subduction zone infancy; examples from the Eocene Izu-Bonin-Mariana and Jurassic California arcs
(Stern, Robert J., *et al.*) 12: 1621
*magma chambers:* The genesis, ascent, and emplacement of the Northern Arran Granite, Scotland; implications for granitic diapirism
(England, Richard W.) 5: 606
*plate collision:* Late Paleozoic to Triassic evolution of the Gondwana margin; evidence from Chilean Frontal Cordilleran batholiths (28°S to 31°S); with Suppl. Data 92-22
(Mpodozis, Constantino, *et al.*) 8: 999
*volcanic fields:* Compositional diversity in late Cenozoic mafic lavas in the Rio Grande Rift and Basin and Range Province, southern New Mexico; with Suppl. Data 92-20
(Anthony, Elizabeth Y., *et al.*) 8: 973

**magmas—geochemistry**
*assimilation:* Tectonic implications of isotopic variation among Jurassic and Early Cretaceous plutons, Klamath Mountains
(Barnes, Calvin G., *et al.*) 1: 117

**magmas—properties**
*magma chambers:* Orbicular volcanic rocks of Cerro Panizos; their origin and implications for orb formation
(Ort, Michael H.) 8: 1048

**magnetism of rocks and minerals** *see* paleomagnetism

**Maine—stratigraphy**
*Pleistocene:* Late Wisconsinan stratigraphy in the lower Sandy River valley, New Sharon, Maine
(Weddle, Thomas Kirk) 10: 1350

**Malawi—geophysical surveys**
*remote sensing:* Oblique extensional tectonics in the Malawi Rift, Africa; with Suppl. Data 92-23
(Chorowicz, J., *et al.*) 8: 1015

**Malawi—structural geology**
*tectonics:* Oblique extensional tectonics in the Malawi Rift, Africa; with Suppl. Data 92-23
(Chorowicz, J., *et al.*) 8: 1015

**mammals—biostratigraphy**
*Miocene:* Miocene biostratigraphy and biochronology of the Dove Spring Formation, Mojave Desert, California, and characterization of the Clarendonian mammal age (late Miocene) in California
(Whistler, David P., *et al.*) 6: 644

**Mariana Islands—tectonophysics**
*plate tectonics:* Subduction zone infancy; examples from the Eocene Izu-Bonin-Mariana and Jurassic California arcs
(Stern, Robert J., *et al.*) 12: 1621

**marine sediments** *see under* sediments

**Maryland—sedimentary petrology**
*diagenesis:* Eustatic control on early dolomitization of cyclic peritidal carbonates; evidence from the Early Ordovician upper Knox Group, Appalachians
(Montanez, Isabel P., *et al.*) 7: 872

**meanders** *see under* fluvial features *under* geomorphology

**Mediterranean region** *see also* the individual countries

**melange** *see under* P-T conditions *under* metamorphism; *see under* serpentinite *under* metasomatic rocks

**Mesozoic** *see also* Jurassic; *see also under* stratigraphy *under* Pakistan; USSR; Xinjiang

**metal ores** *see also under* economic geology *under* Colorado

**metamorphic rocks** *see also* igneous rocks; metamorphism; metasomatism

**metamorphic rocks—distribution**
*metamorphic belts:* The Sullivan Creek Terrane; a composite Jurassic arc assemblage, western Sierra Nevada metamorphic belt, California; with Suppl. Data 92-29
(Herzig, Charles T., *et al.*) 10: 1292

**metamorphic rocks—facies**
*granulite facies:* Chronology of Caledonian high-pressure granulite-facies metamorphism, uplift, and deformation within northern parts of the Western Gneiss region, Norway; with Suppl. Data 92-10
(Dallmeyer, R. D., *et al.*) 4: 444

**metamorphic rocks—metaplutonic rocks**
*petrography:* The Wathaman Batholith; an early Proterozoic continental arc in the Trans-Hudson orogenic belt, Canada
(Meyer, Michael T., *et al.*) 9: 1073

**metamorphic rocks—metasedimentary rocks**
*genesis:* Deposition and deformation of an Early Cretaceous trench-slope basin deposit, Torlesse Terrane, New Zealand
(George, Annette D.) 5: 570
*lithostratigraphy:* Paleozoic and Mesozoic stratigraphy of the Peshawar Basin, Pakistan; correlations and implications
(Pogue, Kevin R., *et al.*) 8: 915
*petrology:* From oceanic closure to continental collision; a synthesis of the "schistes lustres" metamorphic complex of the Western Alps
(Deville, Eric, *et al.*) 2: 127

**metamorphic rocks—mineral assemblages**
*aureoles:* The genesis, ascent, and emplacement of the Northern Arran Granite, Scotland; implications for granitic diapirism
(England, Richard W.) 5: 606
*facies:* Eocene tectonics in the Omineca Belt, northern British Columbia, Canada; field, $^{40}Ar$-$^{39}Ar$, and fission track data from the Horseranch

Range; with Suppl. Data 92-02
(Plint, H. E., *et al.*) 1: 106
— Forethrusting, backfolding, and lateral gravitational escape in the northern part of the Western Alps (Monte Rosa region)
(Ring, Uwe, *et al.*) 7: 901
— Structural geology and geochronology of subduction complexes along the margin of Gondwanaland; new data from the Antarctic Peninsula and southernmost Andes; with Suppl. Data 92-32
(Grunow, Anne M., *et al.*) 11: 1497
— The P-T-t history of blocks in serpentinite-matrix melange, west-central Baja California; with Suppl. Data 92-01
(Baldwin, Suzanne L., *et al.*) 1: 18
— $^{40}Ar/^{39}Ar$ thermochronology and thermobarometry of metamorphism, plutonism, and tectonic denudation in the Old Woman Mountains area, California; with Suppl. Data 92-05
(Foster, David A., *et al.*) 2: 176

**metamorphic rocks—mylonites**
*fabric:* A structural analysis of the Main Central Thrust zone, Langtang National Park, central Nepal Himalaya
(Macfarlane, A. M., *et al.*) 11: 1389

**metamorphic rocks—textures**
*fabric:* Mesozoic structural and metamorphic history of the central Ruby Mountains metamorphic core complex, Nevada; with Suppl. Data 92-27
(Hudec, Michael R.) 9: 1086

**metamorphism** *see also* metamorphic rocks; metasomatism

**metamorphism—contact metamorphism**
*aureoles:* The genesis, ascent, and emplacement of the Northern Arran Granite, Scotland; implications for granitic diapirism
(England, Richard W.) 5: 606

**metamorphism—evolution**
*absolute age:* Cretaceous metamorphism and plutonism in the Santa Cruz Mountains, Salinian Block, California, and correlation with the southernmost Sierra Nevada
(James, Eric William) 10: 1326
*metamorphic core complexes:* Mesozoic structural and metamorphic history of the central Ruby Mountains metamorphic core complex, Nevada; with Suppl. Data 92-27
(Hudec, Michael R.) 9: 1086
*plate convergence:* Structural geology and geochronology of subduction complexes along the margin of Gondwanaland; new data from the Antarctic Peninsula and southernmost Andes; with Suppl. Data 92-32
(Grunow, Anne M., *et al.*) 11: 1497

**metamorphism—P-T conditions**
*facies:* The P-T-t history of blocks in serpentinite-matrix melange, west-central Baja California; with Suppl. Data 92-01
(Baldwin, Suzanne L., *et al.*) 1: 18
*high pressure:* Chronology of Caledonian high-pressure granulite-facies metamorphism, uplift, and deformation within northern parts of the Western Gneiss region, Norway; with Suppl. Data 92-10
(Dallmeyer, R. D., *et al.*) 4: 444
*melange:* Subduction zone infancy; examples from the Eocene Izu-Bonin-Mariana and Jurassic California arcs
(Stern, Robert J., *et al.*) 12: 1621

**metamorphism—polymetamorphism**
*P-T conditions:* $^{40}Ar/^{39}Ar$ thermochronology and thermobarometry of metamorphism, plutonism, and tectonic denudation in the Old Woman Mountains area, California; with Suppl. Data 92-05
(Foster, David A., *et al.*) 2: 176

**metamorphism—regional metamorphism**
*P-T conditions:* Eocene tectonics in the Omineca Belt, northern British Columbia, Canada; field, $^{40}Ar$-$^{39}Ar$, and fission track data from the Horseranch Range; with Suppl. Data 92-02
(Plint, H. E., *et al.*) 1: 106

**metamorphism—retrograde metamorphism**
*facies:* Forethrusting, backfolding, and lateral gravitational escape in the northern part of the Western Alps (Monte Rosa region)
(Ring, Uwe, *et al.*) 7: 901

**metasomatic rocks** *see also* igneous rocks; metamorphic rocks; metamorphism; metasomatism

**metasomatic rocks—serpentinite**
*melange:* The P-T-t history of blocks in serpentinite-matrix melange, west-central Baja California; with Suppl. Data 92-01
(Baldwin, Suzanne L., *et al.*) 1: 18

**metasomatism** *see also* metamorphism; metasomatic rocks

**metasomatism—processes**
*kaolinization:* An Appalachian isochron; a kaolinized Carboniferous airfall volcanic-ash deposit (tonstein)
(Lyons, Paul C., *et al.*) 11: 1515

**meteorites** *see also* tektites

**Mexico** *see also* Gulf Coastal Plain

**Mexico—geochemistry**
*trace elements:* The P-T-t history of blocks in serpentinite-matrix melange, west-central Baja California; with Suppl. Data 92-01
(Baldwin, Suzanne L., *et al.*) 1: 18

**Mexico—petrology**
*volcanism:* Hawaiites and related lavas in the Atenguillo Graben, western Mexican volcanic belt; with Suppl. Data 92-35
(Righter, Kevin, *et al.*) 12: 1592

**Mexico—stratigraphy**
*paleomagnetism:* Paleomagnetism of the Chiapas Massif, southern Mexico; evidence for rotation of the Maya Block and implications for the opening of the Gulf of Mexico
(Molina-Garza, Roberto S., *et al.*) 9: 1156

**Micronesia** *see also* Mariana Islands

**Middle East** *see also* Syria

**Midwest** *see also* Illinois; Missouri

**mineral deposits, genesis—lead-zinc deposits**
*ore-forming fluids:* Fluid-inclusion studies of regionally extensive epigenetic dolomites, Bonneterre Dolomite (Cambrian), Southeast Missouri; evidence of multiple fluids during dolomitization and lead-zinc mineralization; with Suppl. Data 92-18
(Shelton, Kevin L., *et al.*) 6: 675

**mineral deposits, genesis—metal ores**
*epithermal processes:* Lead isotopic compositions and paleohydrology of caldera-related epithermal veins, Lake City, Colorado
(Sanford, Richard F.) 10: 1236

**mineral deposits, genesis—processes**
*igneous processes:* Jurassic ash-flow sheets, calderas, and related intrusions of the Cordilleran volcanic arc in southeastern Arizona; implications for regional tectonics and ore deposits
(Lipman, Peter W., *et al.*) 1: 32

**mineral resources** *see also* the individual deposits

**minerals** *see also* crystal growth

**minerals—framework silicates, alkali feldspar**
*sanidine:* Plagioclase mantles on sanidine in silicic lavas, Clear Lake, California; implications for the origin of rapakivi texture
(Stimac, James A., *et al.*) 6: 728

**minerals—framework silicates, plagioclase**
*crystal growth:* Plagioclase mantles on sanidine in silicic lavas, Clear Lake, California; implications for the origin of rapakivi texture
(Stimac, James A., *et al.*) 6: 728

**mining geology—rock mechanics**
*roof control:* Shale facies and mine roof stability; a case study from the Illinois Basin
(Breyer, John A.) 8: 1024

**Miocene** *see also under* geochronology *under* Florida; *see also under* stratigraphy *under* California

**Mississippian** *see also under* stratigraphy *under* California; Nevada; Rocky Mountains

**Missouri—economic geology**
*lead-zinc deposits:* Fluid-inclusion studies of regionally extensive epigenetic dolomites, Bonneterre Dolomite (Cambrian), Southeast Missouri; evidence of multiple fluids during dolomitization and lead-zinc mineralization; with Suppl. Data 92-18
(Shelton, Kevin L., *et al.*) 6: 675

**mollusks—bivalves**
*Cretaceous:* Regional isotopic variations in the Fort Hays Member of the Niobrara Formation, United States Western Interior; primary signals and diagenetic overprinting in a Cretaceous pelagic rhythmite; with Suppl. Data 92-21
(Laferriere, Alan P.) 8: 980
**molybdenum ores** *see also under* economic geology *under* Colorado
**Montana—geomorphology**
*glacial geology:* Magnitudes and implications of peak discharges from glacial Lake Missoula
(O'Connor, Jim E., *et al.*) 3: 267
**Montana—stratigraphy**
*Cretaceous:* Paleomagnetic study of thrust-sheet motion along the Rocky Mountain front in Montana
(Jolly, Arthur D., *et al.*) 6: 779
*Devonian:* Environmental record of Devonian-Mississippian carbonate and low-oxygen facies transitions, southernmost Canadian Rocky Mountains and northwesternmost Montana
(Savoy, Lauret E.) 11: 1412
**Montana—structural geology**
*deformation:* Deformation of a foreland carbonate thrust system, Sawtooth Range, Montana
(Holl, James E., *et al.*) 8: 944
**mud** *see under* sediments
**mud volcanoes** *see also* volcanology
**nannofossils** *see under* algal flora
**neodymium—isotopes**
*Nd-144/Nd-143:* Nd-Sr isotopic, geochemical, and petrographic stratigraphy and paleotectonic analysis; Mesozoic Great Valley forearc sedimentary rocks of California
(Linn, Anne M., *et al.*) 10: 1264
— Tectonic implications of isotopic variation among Jurassic and Early Cretaceous plutons, Klamath Mountains
(Barnes, Calvin G., *et al.*) 1: 117
**Neogene** *see also under* stratigraphy *under* Atlantic Ocean; Pacific Ocean
**neotectonics** *see also under* structural geology *under* California; Costa Rica; Himalayas; Nepal
**Nepal—structural geology**
*neotectonics:* A structural analysis of the Main Central Thrust zone, Langtang National Park, central Nepal Himalaya
(Macfarlane, A. M., *et al.*) 11: 1389
**Nevada—stratigraphy**
*Cambrian:* Depositional and sequence stratigraphic framework of the Lower Cambrian Zabriskie Quartzite; implications for regional correlations and the Early Cambrian paleogeography of the Death Valley region of California and Nevada
(Prave, Anthony R.) 5: 505
*Mississippian:* Paleogeographic and structural significance of an Upper Mississippian facies boundary in southern Nevada and east-central California: Discussion
(Snow, J. Kent) 8: 1067
— Paleogeographic and structural significance of an Upper Mississippian facies boundary in southern Nevada and east-central California: Reply
(Stevens, Calvin H., *et al.*) 8: 1069
*Paleozoic:* Roberts Mountains thrust relationships in a critical area, northern Sulphur Spring Range, Nevada
(Johnson, J. G., *et al.*) 9: 1208
**Nevada—structural geology**
*faults:* History and kinematics of Cenozoic extension in the northern Toiyabe Range, Lander County, Nevada
(Smith, David Lee) 7: 789
— Paleomagnetic data bearing on the origin of arcuate structures in the French Peak-Massachusetts Mountain area of southern Nevada
(Hudson, Mark R.) 5: 581
— Prevolcanic extensional Seaman breakaway fault and its geologic implications for eastern Nevada and western Utah
(Taylor, Wanda J., *et al.*) 3: 255
*orogeny:* Large-magnitude Permian shortening and continental margin tectonics in the southern Cordillera
(Snow, J. Kent) 1: 80
*tectonics:* Mesozoic structural and metamorphic history of the central Ruby Mountains metamorphic core complex, Nevada; with Suppl. Data 92-27
(Hudec, Michael R.) 9: 1086
**Nevada—tectonophysics**
*crust:* A relation among geology, tectonics, and velocity structure, western to central Nevada Basin and Range
(Catchings, R. D.) 9: 1178
— Prevolcanic extensional Seaman breakaway fault and its geologic implications for eastern Nevada and western Utah
(Taylor, Wanda J., *et al.*) 3: 255
**New Hampshire—stratigraphy**
*Paleozoic:* The "Piermont Allochthon" in the Littleton-Moosilauke area of west-central New Hampshire: Alternative interpretation
(Billings, Marland P.) 11: 1539
— The "Piermont Allochthon" in the Littleton-Moosilauke area of west-central New Hampshire: Alternative interpretation: Reply
(Moench, Robert H.) 11: 1541
**New Jersey—oceanography**
*continental margin:* Integrated sequence stratigraphy of Neogene deposits, New Jersey continental shelf and slope; comparison with the Exxon model
(Greenlee, Stephen M., *et al.*) 11: 1403
*continental shelf:* Clastic sequences developed during late Quaternary glacio-eustatic sea-level fluctuations on a passive margin; example from the inner continental shelf near Barnegat Inlet, New Jersey: Discussion
(Thomas, Mark A.) 10: 1386
— Clastic sequences developed during late Quaternary glacio-eustatic sea-level fluctuations on a passive margin; example from the inner continental shelf near Barnegat Inlet, New Jersey: Reply
(Ashley, Gail M., *et al.*) 10: 1387
**New Jersey—stratigraphy**
*Quaternary:* Clastic sequences developed during late Quaternary glacio-eustatic sea-level fluctuations on a passive margin; example from the inner continental shelf near Barnegat Inlet, New Jersey: Discussion
(Thomas, Mark A.) 10: 1386
— Clastic sequences developed during late Quaternary glacio-eustatic sea-level fluctuations on a passive margin; example from the inner continental shelf near Barnegat Inlet, New Jersey: Reply
(Ashley, Gail M., *et al.*) 10: 1387
**New Jersey—structural geology**
*faults:* Structural and stratigraphic development of the Newark extensional basin, eastern North America; evidence for the growth of the basin and its bounding structures
(Schlische, Roy W.) 10: 1246
**New Mexico—geochemistry**
*lava:* Compositional diversity in late Cenozoic mafic lavas in the Rio Grande Rift and Basin and Range Province, southern New Mexico; with Suppl. Data 92-20
(Anthony, Elizabeth Y., *et al.*) 8: 973
**New Mexico—geochronology**
*Paleogene:* Time-stratigraphic framework for the Eocene-Oligocene Mogollon-Datil volcanic field, Southwest New Mexico
(McIntosh, William C., *et al.*) 7: 851
**New Mexico—stratigraphy**
*Cretaceous:* Depositional history of Lower Cretaceous strata in northeastern New Mexico; implications for regional tectonics and depositional sequences
(Holbrook, John M., *et al.*) 7: 802
*Triassic:* A Middle Triassic paleomagnetic pole for North America
(Steiner, Maureen B., *et al.*) 8: 993
**New Mexico—tectonophysics**
*heat flow:* Thermal maturity patterns of Cretaceous and Tertiary rocks, San Juan Basin, Colorado and New Mexico
(Law, B. E.) 2: 192

**New South Wales—stratigraphy**
*Proterozoic:* Neoproterozoic glaciation in the Broken Hill area, New South Wales, Australia
(Young, Grant M.) 7: 840

**New York—geochronology**
*Pleistocene:* Late Pleistocene surficial stratigraphy and landscape development in the Salamanca Re-entrant, southwestern New York
(Snyder, Kent E., *et al.*) 2: 242

**New Zealand—geochronology**
*Permian:* Uranium-lead ages from the Dun Mountain ophiolite belt and Brook Street Terrane, South Island, New Zealand
(Kimbrough, David L., *et al.*) 4: 429

**New Zealand—sedimentary petrology**
*sedimentation:* Deposition and deformation of an Early Cretaceous trench-slope basin deposit, Torlesse Terrane, New Zealand
(George, Annette D.) 5: 570

**noble gases** *see also* radon

**North America** *see also* Appalachians; Atlantic Coastal Plain; Canada; Great Lakes region; Gulf Coastal Plain; Mexico; Rocky Mountains

**North America—stratigraphy**
*Triassic:* A Middle Triassic paleomagnetic pole for North America
(Steiner, Maureen B., *et al.*) 8: 993

**North America—structural geology**
*faults:* Structural and stratigraphic development of the Newark extensional basin, eastern North America; evidence for the growth of the basin and its bounding structures
(Schlische, Roy W.) 10: 1246

**Northern Hemisphere** *see also* Atlantic Ocean; Central America; North America; Pacific Ocean; USSR

**Northwest Territories—stratigraphy**
*Proterozoic:* The Proterozoic Fort Simpson structural trend in northwestern Canada
(Cook, Frederick A., *et al.*) 9: 1121

**Norway—geochronology**
*Paleozoic:* Chronology of Caledonian high-pressure granulite-facies metamorphism, uplift, and deformation within northern parts of the Western Gneiss region, Norway; with Suppl. Data 92-10
(Dallmeyer, R. D., *et al.*) 4: 444

**ocean floors** *see also under* oceanography *under* Caribbean Sea; Pacific Ocean

**Oligocene** *see also under* geochronology *under* Colorado

**ophiolite** *see under* ultramafics *under* igneous rocks

**Ordovician** *see also under* stratigraphy *under* Wales

**Oregon—geochemistry**
*trace elements:* Tectonic implications of isotopic variation among Jurassic and Early Cretaceous plutons, Klamath Mountains
(Barnes, Calvin G., *et al.*) 1: 117

**Oregon—petrology**
*lava:* Crease structures; indicators of emplacement rates and surface stress regimes of lava flows; with Suppl. Data 92-12
(Anderson, Steven W., *et al.*) 5: 615

**Oregon—sedimentary petrology**
*sedimentary rocks:* Conglomerates as clues to the sedimentary and tectonic evolution of a suspect terrane; Wallowa Mountains, Oregon; with Suppl. Data 92-37
(Follo, Michael F.) 12: 1561

**organic materials—alteration**
*thermal maturity:* Thermal maturity patterns of Cretaceous and Tertiary rocks, San Juan Basin, Colorado and New Mexico
(Law, B. E.) 2: 192

**orogeny** *see also under* structural geology *under* California; Nevada; Utah; Western U.S.

**orogeny—absolute age**
*Caledonian Orogeny:* Chronology of Caledonian high-pressure granulite-facies metamorphism, uplift, and deformation within northern parts of the Western Gneiss region, Norway; with Suppl. Data 92-10
(Dallmeyer, R. D., *et al.*) 4: 444

**orogeny—evolution**
*Pyrenean Orogeny:* The chronology of the Eocene tectonic and stratigraphic development of the eastern Pyrenean foreland basin, Northeast Spain
(Burbank, Douglas W., *et al.*) 9: 1101

**orogeny—mechanism**
*Cordilleran Orogeny:* Large-magnitude Permian shortening and continental margin tectonics in the southern Cordillera
(Snow, J. Kent) 1: 80
*Himalayan Orogeny:* A structural analysis of the Main Central Thrust zone, Langtang National Park, central Nepal Himalaya
(Macfarlane, A. M., *et al.*) 11: 1389
*kinematics:* The Chaparral shear zone; deformation partitioning and heterogeneous bulk crustal shortening during Proterozoic orogeny in central Arizona
(Bergh, Steffen G., *et al.*) 3: 329
*orogenic belts:* Structural and seismic evidence for intracontinental subduction in the Peter the First Range, Central Asia
(Hamburger, Michael W., *et al.*) 4: 397
*Sevier orogenic belt:* Basement-cover relations, Sevier orogenic belt, northern Utah
(Yonkee, W. Adolph) 3: 280
— Extension in the Cretaceous Sevier orogen, North American Cordillera; with Suppl. Data 92-13
(Hodges, K. V., *et al.*) 5: 560
— Footwall deformation along Willard Thrust, Sevier orogenic belt; implications for mechanisms, timing, and kinematics
(Evans, James P., *et al.*) 5: 516

**oxygen—geochemistry**
*sedimentary rocks:* Environmental record of Devonian-Mississippian carbonate and low-oxygen facies transitions, southernmost Canadian Rocky Mountains and northwesternmost Montana
(Savoy, Lauret E.) 11: 1412

**oxygen—O-18/O-16**
*marine sediments:* Clastic sequences developed during late Quaternary glacio-eustatic sea-level fluctuations on a passive margin; example from the inner continental shelf near Barnegat Inlet, New Jersey: Discussion
(Thomas, Mark A.) 10: 1386
— Clastic sequences developed during late Quaternary glacio-eustatic sea-level fluctuations on a passive margin; example from the inner continental shelf near Barnegat Inlet, New Jersey: Reply
(Ashley, Gail M., *et al.*) 10: 1387
*plutonic rocks:* Tectonic implications of isotopic variation among Jurassic and Early Cretaceous plutons, Klamath Mountains
(Barnes, Calvin G., *et al.*) 1: 117
*rhythmite:* Regional isotopic variations in the Fort Hays Member of the Niobrara Formation, United States Western Interior; primary signals and diagenetic overprinting in a Cretaceous pelagic rhythmite; with Suppl. Data 92-21
(Laferriere, Alan P.) 8: 980
*sandstone:* Isotopic provenance of Paleogene sandstones from the accretionary core of the Olympic Mountains, Washington; with Suppl. Data 92-04
(Heller, Paul L., *et al.*) 2: 140

**P-T conditions** *see under* metamorphism; *see under* polymetamorphism *under* metamorphism; *see under* regional metamorphism *under* metamorphism

**Pacific Coast** *see also* the individual states and provinces

**Pacific Ocean—oceanography**
*ocean floors:* The record of Ontong Java Plateau; main results of ODP Leg 130
(Berger, W. H., *et al.*) 8: 954

**Pacific Ocean—stratigraphy**
*Neogene:* The record of Ontong Java Plateau; main results of ODP Leg 130
(Berger, W. H., *et al.*) 8: 954

**Pacific Ocean—tectonophysics**
*plate tectonics:* Quaternary uplift astride the aseismic Cocos Ridge, Pacific Coast, Costa Rica
(Gardner, Thomas W., *et al.*) 2: 219
**Pacific region** *see also* the individual countries
**Pakistan—stratigraphy**
*Mesozoic:* Paleozoic and Mesozoic stratigraphy of the Peshawar Basin, Pakistan; correlations and implications
(Pogue, Kevin R., *et al.*) 8: 915
*Paleozoic:* Paleozoic and Mesozoic stratigraphy of the Peshawar Basin, Pakistan; correlations and implications
(Pogue, Kevin R., *et al.*) 8: 915
**paleoclimatology—Jurassic**
*Pangaea:* Pangaean climate during the Early Jurassic; GCM simulations and the sedimentary record of paleoclimate
(Chandler, Mark A., *et al.*) 5: 543
**paleoclimatology—Proterozoic**
*New South Wales:* Neoproterozoic glaciation in the Broken Hill area, New South Wales, Australia
(Young, Grant M.) 7: 840
**paleoecology—algal flora**
*Proterozoic:* Stromatolites of the Mescal Limestone (Apache Group, middle Proterozoic, central Arizona); taxonomy, biostratigraphy, and paleoenvironments
(Bertrand-Sarfati, Janine, *et al.*) 9: 1138
**paleoecology—Pleistocene**
*California:* The Yerba Buena mud; record of the last-interglacial predecessor of San Francisco Bay, California
(Sloan, Doris) 6: 716
**paleoecology—Pliocene**
*Panama:* Closure of the Isthmus of Panama; the near-shore marine record of Costa Rica and western Panama
(Coates, Anthony G., *et al.*) 7: 814
**Paleogene** *see also under* geochronology *under* New Mexico
**paleogeography—Cambrian**
*California:* Depositional and sequence stratigraphic framework of the Lower Cambrian Zabriskie Quartzite; implications for regional correlations and the Early Cambrian paleogeography of the Death Valley region of California and Nevada
(Prave, Anthony R.) 5: 505
**paleogeography—Cretaceous**
*New Mexico:* Depositional history of Lower Cretaceous strata in northeastern New Mexico; implications for regional tectonics and depositional sequences
(Holbrook, John M., *et al.*) 7: 802
**paleogeography—Holocene**
*Louisiana:* Use of alloformations for definition of Holocene meander belts in the middle Amite River, southeastern Louisiana
(Autin, Whitney J.) 2: 233
**paleogeography—Jurassic**
*California:* The Sullivan Creek Terrane; a composite Jurassic arc assemblage, western Sierra Nevada metamorphic belt, California; with Suppl. Data 92-29
(Herzig, Charles T., *et al.*) 10: 1292
**paleogeography—Mesozoic**
*Xinjiang:* Sedimentary record and climatic implications of recurrent deformation in the Tian Shan; evidence from Mesozoic strata of the north Tarim, south Junggar, and Turpan basins, Northwest China
(Hendrix, Marc S., *et al.*) 1: 53
**paleogeography—Miocene**
*California:* Evolution of a Miocene half-graben basin, Colorado River extensional corridor, southeastern California
(Fedo, Christopher M., *et al.*) 4: 481
**paleogeography—Mississippian**
*Nevada:* Paleogeographic and structural significance of an Upper Mississippian facies boundary in southern Nevada and east-central California: Discussion
(Snow, J. Kent) 8: 1067
— Paleogeographic and structural significance of an Upper Mississippian facies boundary in southern Nevada and east-central California: Reply
(Stevens, Calvin H., *et al.*) 8: 1069
**paleogeography—Oligocene**
*Nevada:* History and kinematics of Cenozoic extension in the northern Toiyabe Range, Lander County, Nevada
(Smith, David Lee) 7: 789
**paleogeography—Permian**
*Great Basin:* Large-magnitude Permian shortening and continental margin tectonics in the southern Cordillera
(Snow, J. Kent) 1: 80
**paleogeography—Pliocene**
*Panama:* Closure of the Isthmus of Panama; the near-shore marine record of Costa Rica and western Panama
(Coates, Anthony G., *et al.*) 7: 814
**paleomagnetism** *see under* geochronology
**paleomagnetism—Cenozoic**
*California:* Magnetostratigraphy and tephrochronology of an upper Pliocene to Holocene record in lake sediments at Tulelake, Northern California; with Suppl. Data 92-09
(Rieck, Hugh J., *et al.*) 4: 409
**paleomagnetism—Cretaceous**
*Montana:* Paleomagnetic study of thrust-sheet motion along the Rocky Mountain front in Montana
(Jolly, Arthur D., *et al.*) 6: 779
**paleomagnetism—Eocene**
*Spain:* The chronology of the Eocene tectonic and stratigraphic development of the eastern Pyrenean foreland basin, Northeast Spain
(Burbank, Douglas W., *et al.*) 9: 1101
**paleomagnetism—Mesozoic**
*Mexico:* Paleomagnetism of the Chiapas Massif, southern Mexico; evidence for rotation of the Maya Block and implications for the opening of the Gulf of Mexico
(Molina-Garza, Roberto S., *et al.*) 9: 1156
**paleomagnetism—Miocene**
*California:* Miocene biostratigraphy and biochronology of the Dove Spring Formation, Mojave Desert, California, and characterization of the Clarendonian mammal age (late Miocene) in California
(Whistler, David P., *et al.*) 6: 644
*Florida:* Improved chronologic resolution of the Hawthorn and the Alum Bluff groups in northern Florida; implications for Miocene chronostratigraphy
(Bryant, J. Daniel, *et al.*) 2: 208
*Nevada:* Paleomagnetic data bearing on the origin of arcuate structures in the French Peak-Massachusetts Mountain area of southern Nevada
(Hudson, Mark R.) 5: 581
**paleomagnetism—Oligocene**
*Colorado:* Deformation and age of the Red Mountain intrusive system (Urad-Henderson molybdenum deposits), Colorado; evidence from paleomagnetic and $^{40}Ar/^{39}Ar$ data
(Geissman, John W., *et al.*) 8: 1031
**paleomagnetism—Paleogene**
*New Mexico:* Time-stratigraphic framework for the Eocene-Oligocene Mogollon-Datil volcanic field, Southwest New Mexico
(McIntosh, William C., *et al.*) 7: 851
**paleomagnetism—Permian**
*Mexico:* Paleomagnetism of the Chiapas Massif, southern Mexico; evidence for rotation of the Maya Block and implications for the opening of the Gulf of Mexico
(Molina-Garza, Roberto S., *et al.*) 9: 1156
**paleomagnetism—remanent magnetization**
*ophiolite:* Origin of the Central American ophiolites; evidence from paleomagnetic results; with Suppl. Data 92-24
(Frisch, Wolfgang, *et al.*) 10: 1301
**paleomagnetism—Triassic**
*New Mexico:* A Middle Triassic paleomagnetic pole for North America
(Steiner, Maureen B., *et al.*) 8: 993
**paleotemperature** *see* geologic thermometry *under* fluid inclusions
**Paleozoic** *see also* Pennsylvanian; *see also under* geochronology *under* Norway; *see also under* stratigraphy *under* Nevada; New Hampshire; Pakistan

**paleozoogeography** *see* biogeography

**Panama—stratigraphy**
*Pliocene:* Closure of the Isthmus of Panama; the near-shore marine record of Costa Rica and western Panama
(Coates, Anthony G., *et al.*) 7: 814

**Panama—tectonophysics**
*paleomagnetism:* Origin of the Central American ophiolites; evidence from paleomagnetic results; with Suppl. Data 92-24
(Frisch, Wolfgang, *et al.*) 10: 1301

**Pennsylvania—geochronology**
*Pleistocene:* Late Pleistocene surficial stratigraphy and landscape development in the Salamanca Re-entrant, southwestern New York
(Snyder, Kent E., *et al.*) 2: 242

**Pennsylvania—structural geology**
*faults:* Structural and stratigraphic development of the Newark extensional basin, eastern North America; evidence for the growth of the basin and its bounding structures
(Schlische, Roy W.) 10: 1246

**Pennsylvanian—stratigraphy**
*lithostratigraphy:* Pennsylvanian cyclothems; methods of distinguishing tectonically induced changes in sea level from climatically induced changes
(Klein, George DeVries, *et al.*) 2: 166

**Permian** *see also under* geochronology *under* New Zealand

**Phanerozoic** *see also* Jurassic; Pennsylvanian

**physical geography** *see* geomorphology

**Plantae** *see also* algae; algal flora; ichnofossils

**plate tectonics** *see also under* tectonophysics *under* Andes; Antarctic Ocean; California; Caribbean region; Central America; Japan; Mariana Islands; Pacific Ocean; USSR; West Pacific Ocean Islands

**plate tectonics—island arcs**
*sedimentation:* Compositional trends in arc-related, deep-marine sand and sandstone; a reassessment of magmatic-arc provenance; with Suppl. Data 92-36
(Marsaglia, Kathleen M., *et al.*) 12: 1637

**Pleistocene** *see also under* geochronology *under* Alaska; Bermuda; New York; Pennsylvania; *see also under* stratigraphy *under* California; Maine

**Pliocene** *see also under* geochronology *under* Alaska; *see also under* stratigraphy *under* California; Costa Rica; Panama

**plutons** *see under* intrusions

**Precambrian** *see also under* geochronology *under* Brazil

**Proterozoic** *see also under* geochronology *under* Saskatchewan; Texas; *see also under* stratigraphy *under* Arizona; New South Wales; Northwest Territories

**Pyrenees** *see also* France; Spain

**Pyrenees—geochronology**
*Eocene:* The chronology of the Eocene tectonic and stratigraphic development of the eastern Pyrenean foreland basin, Northeast Spain
(Burbank, Douglas W., *et al.*) 9: 1101

**Pyrenees—structural geology**
*faults:* Coeval hindward- and forward-imbricating thrusting in the south-central Pyrenees, Spain; timing and rates of shortening and deposition
(Burbank, Douglas W., *et al.*) 1: 3

**pyroclastics** *see under* igneous rocks

**Quaternary** *see also under* stratigraphy *under* California; New Jersey; Texas

**Queensland—geomorphology**
*fluvial features:* Bedrock benches and boulder bars; floods in the Burdekin Gorge of Australia; with Suppl. Data 92-14
(Wohl, Ellen E.) 6: 770

**racemization** *see under* geochronology

**radioactive dating** *see* absolute age

**radiocarbon dating** *see* absolute age

**radon—isotopes**
*Rn-222:* Hydraulic exchange between a coral reef and surface sea water
(Tribble, Gordon W., *et al.*) 10: 1280

**rare earths** *see also* neodymium

**rare earths—geochemistry**
*alkali basalts:* The Arabian continental alkali basalt province; Part III, Evolution of Harrat Kishb, Kingdom of Saudi Arabia; with Suppl. Data 92-11
(Camp, Victor E., *et al.*) 4: 379
*hawaiite:* Hawaiites and related lavas in the Atenguillo Graben, western Mexican volcanic belt; with Suppl. Data 92-35
(Righter, Kevin, *et al.*) 12: 1592
*lava:* Orbicular volcanic rocks of Cerro Panizos; their origin and implications for orb formation
(Ort, Michael H.) 8: 1048
*metamorphic rocks:* The P-T-t history of blocks in serpentinite-matrix melange, west-central Baja California; with Suppl. Data 92-01
(Baldwin, Suzanne L., *et al.*) 1: 18
*monzogranite:* Origin and chemical evolution of the 1360 Ma San Isabel Batholith, Wet Mountains, Colorado; a mid-crustal granite of anorogenic affinities; with Suppl. Data 92-06
(Cullers, Robert L., *et al.*) 3: 316
*plutonic rocks:* Late Paleozoic to Triassic evolution of the Gondwana margin; evidence from Chilean Frontal Cordilleran batholiths (28°S to 31°S); with Suppl. Data 92-22
(Mpodozis, Constantino, *et al.*) 8: 999

**reefs** *see also under* oceanography *under* Hawaii

**reefs—properties**
*hydraulic conductivity:* Hydraulic exchange between a coral reef and surface sea water
(Tribble, Gordon W., *et al.*) 10: 1280

**regional geology** *see* areal geology under the appropriate area term

**remote sensing** *see also under* geophysical surveys *under* California; Malawi

**rift zones** *see under* systems *under* faults

**rock mechanics—case studies**
*roof control:* Shale facies and mine roof stability; a case study from the Illinois Basin
(Breyer, John A.) 8: 1024

**rock mechanics—materials, properties**
*welded tuff:* Permeability and fracture patterns in extrusive volcanic rocks; implications from the welded Santana Tuff, Trans-Pecos Texas
(Fuller, Carla M., *et al.*) 11: 1485

**Rocky Mountains** *see also* the individual states and provinces

**Rocky Mountains—stratigraphy**
*Devonian:* Environmental record of Devonian-Mississippian carbonate and low-oxygen facies transitions, southernmost Canadian Rocky Mountains and northwesternmost Montana
(Savoy, Lauret E.) 11: 1412
*Mississippian:* Environmental record of Devonian-Mississippian carbonate and low-oxygen facies transitions, southernmost Canadian Rocky Mountains and northwesternmost Montana
(Savoy, Lauret E.) 11: 1412

**Rocky Mountains—structural geology**
*tectonics:* Paleomagnetic study of thrust-sheet motion along the Rocky Mountain front in Montana
(Jolly, Arthur D., *et al.*) 6: 779

**Russia** *see* USSR

**Sahara** *see also* the individual countries

**sand** *see under* sediments

**sandstone** *see under* sedimentary rocks

**Saskatchewan—geochemistry**
*trace elements:* The Wathaman Batholith; an early Proterozoic continental arc in the Trans-Hudson orogenic belt, Canada
(Meyer, Michael T., *et al.*) 9: 1073

**Saskatchewan—geochronology**
*Proterozoic:* The Wathaman Batholith; an early Proterozoic continental arc in the Trans-Hudson orogenic belt, Canada
(Meyer, Michael T., *et al.*) 9: 1073

**Saudi Arabia—geochemistry**
*trace elements:* The Arabian continental alkali basalt province; Part III, Evolution of Harrat Kishb, Kingdom of Saudi Arabia; with Suppl. Data 92-11
(Camp, Victor E., *et al.*) 4: 379

**Scotland—petrology**
*intrusions:* The genesis, ascent, and emplacement of the Northern Arran Granite, Scotland; implications for granitic diapirism
(England, Richard W.) 5: 606
**sea-floor spreading** *see also* continental drift; plate tectonics
**sedimentary rocks** *see also* sedimentary structures; sedimentation; sediments
**sedimentary rocks—carbonate rocks**
*diagenesis:* Eustatic control on early dolomitization of cyclic peritidal carbonates; evidence from the Early Ordovician upper Knox Group, Appalachians
(Montanez, Isabel P., *et al.*) 7: 872
**sedimentary rocks—clastic rocks**
*conglomerate:* Conglomerates as clues to the sedimentary and tectonic evolution of a suspect terrane; Wallowa Mountains, Oregon; with Suppl. Data 92-37
(Follo, Michael F.) 12: 1561
*lithofacies:* Evolution of a Miocene half-graben basin, Colorado River extensional corridor, southeastern California
(Fedo, Christopher M., *et al.*) 4: 481
— Neoproterozoic glaciation in the Broken Hill area, New South Wales, Australia
(Young, Grant M.) 7: 840
*megabreccia:* Megabreccia shedding from modern, low-relief carbonate platforms, Nicaraguan Rise
(Hine, Albert C., *et al.*) 8: 928
*orthoquartzite:* Depositional and sequence stratigraphic framework of the Lower Cambrian Zabriskie Quartzite; implications for regional correlations and the Early Cambrian paleogeography of the Death Valley region of California and Nevada
(Prave, Anthony R.) 5: 505
*tonstein:* An Appalachian isochron; a kaolinized Carboniferous air-fall volcanic-ash deposit (tonstein)
(Lyons, Paul C., *et al.*) 11: 1515
*turbidite:* Geological evidence for a strewn field of impact spherules in the early Precambrian Hamersley Basin of Western Australia; with Suppl. Data 92-17
(Simonson, Bruce M.) 7: 829
*volcaniclastics:* Ordovician marine volcanic and sedimentary record of rifting and volcanotectonism; Snowdon, Wales, United Kingdom
(Kokelaar, Peter) 11: 1433
**sedimentary rocks—environmental analysis**
*marine environment:* Environmental record of Devonian-Mississippian carbonate and low-oxygen facies transitions, southernmost Canadian Rocky Mountains and northwesternmost Montana
(Savoy, Lauret E.) 11: 1412
**sedimentary rocks—geochemistry**
*isotopes:* Regional isotopic variations in the Fort Hays Member of the Niobrara Formation, United States Western Interior; primary signals and diagenetic overprinting in a Cretaceous pelagic rhythmite; with Suppl. Data 92-21
(Laferriere, Alan P.) 8: 980
**sedimentary rocks—lithofacies**
*distribution:* Paleogeographic and structural significance of an Upper Mississippian facies boundary in southern Nevada and east-central California: Discussion
(Snow, J. Kent) 8: 1067
— Paleogeographic and structural significance of an Upper Mississippian facies boundary in southern Nevada and east-central California: Reply
(Stevens, Calvin H., *et al.*) 8: 1069
**sedimentary rocks—lithostratigraphy**
*Cretaceous:* Depositional history of Lower Cretaceous strata in northeastern New Mexico; implications for regional tectonics and depositional sequences
(Holbrook, John M., *et al.*) 7: 802
*Eocene:* The chronology of the Eocene tectonic and stratigraphic development of the eastern Pyrenean foreland basin, Northeast Spain
(Burbank, Douglas W., *et al.*) 9: 1101
*Mesozoic:* Structural and stratigraphic development of the Newark extensional basin, eastern North America; evidence for the growth of the basin and its bounding structures
(Schlische, Roy W.) 10: 1246
*Paleozoic:* Paleozoic and Mesozoic stratigraphy of the Peshawar Basin, Pakistan; correlations and implications
(Pogue, Kevin R., *et al.*) 8: 915
*Tertiary:* History and kinematics of Cenozoic extension in the northern Toiyabe Range, Lander County, Nevada
(Smith, David Lee) 7: 789
**sedimentary rocks—organic residues**
*vitrinite:* Thermal maturity patterns of Cretaceous and Tertiary rocks, San Juan Basin, Colorado and New Mexico
(Law, B. E.) 2: 192
**sedimentary rocks—sandstone**
*composition:* Compositional trends in arc-related, deep-marine sand and sandstone; a reassessment of magmatic-arc provenance; with Suppl. Data 92-36
(Marsaglia, Kathleen M., *et al.*) 12: 1637
*provenance:* Isotopic provenance of Paleogene sandstones from the accretionary core of the Olympic Mountains, Washington; with Suppl. Data 92-04
(Heller, Paul L., *et al.*) 2: 140
— Nd-Sr isotopic, geochemical, and petrographic stratigraphy and paleotectonic analysis; Mesozoic Great Valley forearc sedimentary rocks of California
(Linn, Anne M., *et al.*) 10: 1264
**sedimentary rocks—shale**
*lithofacies:* Shale facies and mine roof stability; a case study from the Illinois Basin
(Breyer, John A.) 8: 1024
**sedimentary structures** *see also* sedimentary rocks; sediments
**sedimentary structures—biogenic structures**
*stromatolites:* Stromatolites of the Mescal Limestone (Apache Group, middle Proterozoic, central Arizona); taxonomy, biostratigraphy, and paleoenvironments
(Bertrand-Sarfati, Janine, *et al.*) 9: 1138
**sedimentary structures—environmental analysis**
*nearshore environment:* Depositional and sequence stratigraphic framework of the Lower Cambrian Zabriskie Quartzite; implications for regional correlations and the Early Cambrian paleogeography of the Death Valley region of California and Nevada
(Prave, Anthony R.) 5: 505
**sedimentary structures—planar bedding structures**
*cross-stratification:* Lee-face airflow, surface processes, and stratification types; their significance for refining the use of eolian cross-strata as paleocurrent indicators
(Sweet, M. L.) 11: 1528
*cyclothems:* Pennsylvanian cyclothems; methods of distinguishing tectonically induced changes in sea level from climatically induced changes
(Klein, George DeVries, *et al.*) 2: 166
*laminations:* Shale facies and mine roof stability; a case study from the Illinois Basin
(Breyer, John A.) 8: 1024
*rhythmic bedding:* Regional isotopic variations in the Fort Hays Member of the Niobrara Formation, United States Western Interior; primary signals and diagenetic overprinting in a Cretaceous pelagic rhythmite; with Suppl. Data 92-21
(Laferriere, Alan P.) 8: 980
**sedimentation—cyclic processes**
*controls:* Pennsylvanian cyclothems; methods of distinguishing tectonically induced changes in sea level from climatically induced changes
(Klein, George DeVries, *et al.*) 2: 166
*intertidal sedimentation:* Eustatic control on early dolomitization of cyclic peritidal carbonates; evidence from the Early Ordovician upper Knox Group, Appalachians
(Montanez, Isabel P., *et al.*) 7: 872
*lithofacies:* Depositional history of Lower Cretaceous strata in northeastern New Mexico; implications for regional tectonics and depositional

sequences
(Holbrook, John M., *et al.*) 7: 802
*transgression:* Depositional and sequence stratigraphic framework of the Lower Cambrian Zabriskie Quartzite; implications for regional correlations and the Early Cambrian paleogeography of the Death Valley region of California and Nevada
(Prave, Anthony R.) 5: 505
— The Yerba Buena mud; record of the last-interglacial predecessor of San Francisco Bay, California
(Sloan, Doris) 6: 716

**sedimentation—environment**
*arid environment:* The Trollheim alluvial fan and facies model revisited
(Blair, Terence C., *et al.*) 6: 762
*glacial environment:* Neoproterozoic glaciation in the Broken Hill area, New South Wales, Australia
(Young, Grant M.) 7: 840

**sedimentation—marine environment**
*lithofacies:* Environmental record of Devonian-Mississippian carbonate and low-oxygen facies transitions, southernmost Canadian Rocky Mountains and northwesternmost Montana
(Savoy, Lauret E.) 11: 1412

**sedimentation—processes**
*glacial sedimentation:* Late Wisconsinan stratigraphy in the lower Sandy River valley, New Sharon, Maine
(Weddle, Thomas Kirk) 10: 1350
*glaciolacustrine sedimentation:* Magnitudes and implications of peak discharges from glacial Lake Missoula
(O'Connor, Jim E., *et al.*) 3: 267
*glaciomarine sedimentation:* Glacial geology of western Hudson Strait, Canada, with reference to Laurentide ice sheet dynamics
(Laymon, Charles A.) 9: 1169

**sedimentation—provenance**
*clasts:* Conglomerates as clues to the sedimentary and tectonic evolution of a suspect terrane; Wallowa Mountains, Oregon; with Suppl. Data 92-37
(Follo, Michael F.) 12: 1561
*island arcs:* Compositional trends in arc-related, deep-marine sand and sandstone; a reassessment of magmatic-arc provenance; with Suppl. Data 92-36
(Marsaglia, Kathleen M., *et al.*) 12: 1637
*metasedimentary rocks:* The Sullivan Creek Terrane; a composite Jurassic arc assemblage, western Sierra Nevada metamorphic belt, California; with Suppl. Data 92-29
(Herzig, Charles T., *et al.*) 10: 1292
*sandstone:* Nd-Sr isotopic, geochemical, and petrographic stratigraphy and paleotectonic analysis; Mesozoic Great Valley forearc sedimentary rocks of California
(Linn, Anne M., *et al.*) 10: 1264

**sedimentation—sedimentation rates**
*lacustrine sedimentation:* Magnetostratigraphy and tephrochronology of an upper Pliocene to Holocene record in lake sediments at Tulelake, Northern California; with Suppl. Data 92-09
(Rieck, Hugh J., *et al.*) 4: 409

**sedimentation—tectonic controls**
*accretionary wedges:* Deposition and deformation of an Early Cretaceous trench-slope basin deposit, Torlesse Terrane, New Zealand
(George, Annette D.) 5: 570
*basins:* Structural and stratigraphic development of the Newark extensional basin, eastern North America; evidence for the growth of the basin and its bounding structures
(Schlische, Roy W.) 10: 1246
*foreland basins:* Sedimentary record and climatic implications of recurrent deformation in the Tian Shan; evidence from Mesozoic strata of the north Tarim, south Junggar, and Turpan basins, Northwest China
(Hendrix, Marc S., *et al.*) 1: 53
*sedimentary basins:* Evolution of a Miocene half-graben basin, Colorado River extensional corridor, southeastern California
(Fedo, Christopher M., *et al.*) 4: 481
*vertical movements:* Ordovician marine volcanic and sedimentary record of rifting and volcanotectonism; Snowdon, Wales, United Kingdom
(Kokelaar, Peter) 11: 1433

**sedimentation—transport**
*wind transport:* Lee-face airflow, surface processes, and stratification types; their significance for refining the use of eolian cross-strata as paleocurrent indicators
(Sweet, M. L.) 11: 1528

**sediments** *see also* sedimentary rocks; sedimentary structures; sedimentation

**sediments—clastic sediments**
*lithofacies:* The Trollheim alluvial fan and facies model revisited
(Blair, Terence C., *et al.*) 6: 762
*till:* Glacial geology of western Hudson Strait, Canada, with reference to Laurentide ice sheet dynamics
(Laymon, Charles A.) 9: 1169

**sediments—lithostratigraphy**
*Holocene:* Use of alloformations for definition of Holocene meander belts in the middle Amite River, southeastern Louisiana
(Autin, Whitney J.) 2: 233
*Pleistocene:* Late Pleistocene surficial stratigraphy and landscape development in the Salamanca Re-entrant, southwestern New York
(Snyder, Kent E., *et al.*) 2: 242
— Late Wisconsinan stratigraphy in the lower Sandy River valley, New Sharon, Maine
(Weddle, Thomas Kirk) 10: 1350
*Quaternary:* Quaternary uplift astride the aseismic Cocos Ridge, Pacific Coast, Costa Rica
(Gardner, Thomas W., *et al.*) 2: 219

**sediments—marine sediments**
*diagenesis:* Shallow-burial diagenesis of deep-water carbonates, northern Bahamas; results from deep-ocean drilling transects
(Dix, George R., *et al.*) 3: 303
*environmental analysis:* The record of Ontong Java Plateau; main results of ODP Leg 130
(Berger, W. H., *et al.*) 8: 954
*lithofacies:* Clastic sequences developed during late Quaternary glacio-eustatic sea-level fluctuations on a passive margin; example from the inner continental shelf near Barnegat Inlet, New Jersey: Discussion
(Thomas, Mark A.) 10: 1386
— Clastic sequences developed during late Quaternary glacio-eustatic sea-level fluctuations on a passive margin; example from the inner continental shelf near Barnegat Inlet, New Jersey: Reply
(Ashley, Gail M., *et al.*) 10: 1387
— Integrated sequence stratigraphy of Neogene deposits, New Jersey continental shelf and slope; comparison with the Exxon model
(Greenlee, Stephen M., *et al.*) 11: 1403

**sediments—mud**
*environmental analysis:* The Yerba Buena mud; record of the last-interglacial predecessor of San Francisco Bay, California
(Sloan, Doris) 6: 716

**sediments—sand**
*composition:* Compositional trends in arc-related, deep-marine sand and sandstone; a reassessment of magmatic-arc provenance; with Suppl. Data 92-36
(Marsaglia, Kathleen M., *et al.*) 12: 1637

**seismic surveys** *see under* geophysical surveys *under* Arizona; Atlantic Ocean

**seismology—crust**
*velocity structure:* A relation among geology, tectonics, and velocity structure, western to central Nevada Basin and Range
(Catchings, R. D.) 9: 1178

**seismology—earthquakes**
*paleoseismicity:* Utility of radiocarbon-dated stratigraphy in determining late Holocene earthquake recurrence intervals, upper Cook Inlet region, Alaska
(Bartsch-Winkler, Susan B., *et al.*) 6: 684

**seismology—seismicity**
*seismotectonics:* Structural and seismic evidence for intracontinental subduction in the Peter the First Range, Central Asia
(Hamburger, Michael W., *et al.*) 4: 397

**shale** *see under* sedimentary rocks
**shear zones** *see under* effects *under* faults
**shore features** *see under* geomorphology
**slope stability** *see also* geomorphology
**soil mechanics** *see also* rock mechanics
**soils—pedogenesis**
*climate:* The mass balance of soil evolution on late Quaternary marine terraces, Northern California; with Suppl. Data 92-30
(Merritts, Dorothy J., *et al.*) 11: 1456
**South America** *see also* Andes; Brazil; Chile
**Southern Hemisphere** *see also* Antarctic Ocean; Antarctica; Atlantic Ocean; Pacific Ocean
**Southern U.S.** *see also* Kentucky; Louisiana; Tennessee
**Southwestern U.S.** *see also* Arizona; New Mexico; Texas
**Soviet Union** *see* USSR
**Spain—geochronology**
*Eocene:* The chronology of the Eocene tectonic and stratigraphic development of the eastern Pyrenean foreland basin, Northeast Spain
(Burbank, Douglas W., *et al.*) 9: 1101
**Spain—structural geology**
*faults:* Coeval hindward- and forward-imbricating thrusting in the south-central Pyrenees, Spain; timing and rates of shortening and deposition
(Burbank, Douglas W., *et al.*) 1: 3
**Spitsbergen—geomorphology**
*changes of level:* Post-glacial relative sea-level history of northwestern Spitsbergen, Svalbard: Alternative interpretation
(Hequette, Arnaud) 8: 1059
— Post-glacial relative sea-level history of northwestern Spitsbergen, Svalbard: Alternative interpretation: Reply
(Forman, Steven L.) 8: 1064
**springs** *see also* ground water
**stratigraphy—classification**
*stratigraphic units:* Stratigraphic regulation and guidance; a critique of current tendencies in stratigraphic codes and guides
(Harland, W. B.) 10: 1231
**stromatolites** *see under* algae
**strontium—Sr-87/Sr-86**
*plutonic rocks:* Tectonic implications of isotopic variation among Jurassic and Early Cretaceous plutons, Klamath Mountains
(Barnes, Calvin G., *et al.*) 1: 117
*sandstone:* Nd-Sr isotopic, geochemical, and petrographic stratigraphy and paleotectonic analysis; Mesozoic Great Valley forearc sedimentary rocks of California
(Linn, Anne M., *et al.*) 10: 1264
**structural analysis** *see also* folds; foliation
**structural analysis—faults**
*thrust faults:* A structural analysis of the Main Central Thrust zone, Langtang National Park, central Nepal Himalaya
(Macfarlane, A. M., *et al.*) 11: 1389
— Footwall deformation along Willard Thrust, Sevier orogenic belt; implications for mechanisms, timing, and kinematics
(Evans, James P., *et al.*) 5: 516
**structural analysis—interpretation**
*accretionary wedges:* Deposition and deformation of an Early Cretaceous trench-slope basin deposit, Torlesse Terrane, New Zealand
(George, Annette D.) 5: 570
*allochthons:* Large-magnitude Permian shortening and continental margin tectonics in the southern Cordillera
(Snow, J. Kent) 1: 80
*complexes:* From oceanic closure to continental collision; a synthesis of the "schistes lustres" metamorphic complex of the Western Alps
(Deville, Eric, *et al.*) 2: 127
*metamorphic core complexes:* Mesozoic structural and metamorphic history of the central Ruby Mountains metamorphic core complex, Nevada; with Suppl. Data 92-27
(Hudec, Michael R.) 9: 1086
*orogenic belts:* Basement-cover relations, Sevier orogenic belt, northern Utah
(Yonkee, W. Adolph) 3: 280
*polyphase processes:* Forethrusting, backfolding, and lateral gravitational escape in the northern part of the Western Alps (Monte Rosa region)
(Ring, Uwe, *et al.*) 7: 901
— Structural geology and geochronology of subduction complexes along the margin of Gondwanaland; new data from the Antarctic Peninsula and southernmost Andes; with Suppl. Data 92-32
(Grunow, Anne M., *et al.*) 11: 1497
— The Chaparral shear zone; deformation partitioning and heterogeneous bulk crustal shortening during Proterozoic orogeny in central Arizona
(Bergh, Steffen G., *et al.*) 3: 329
*terranes:* The Sullivan Creek Terrane; a composite Jurassic arc assemblage, western Sierra Nevada metamorphic belt, California; with Suppl. Data 92-29
(Herzig, Charles T., *et al.*) 10: 1292
**structural petrology** *see* structural analysis
**Switzerland—petrology**
*metamorphic rocks:* From oceanic closure to continental collision; a synthesis of the "schistes lustres" metamorphic complex of the Western Alps
(Deville, Eric, *et al.*) 2: 127
**Switzerland—structural geology**
*structural analysis:* Forethrusting, backfolding, and lateral gravitational escape in the northern part of the Western Alps (Monte Rosa region)
(Ring, Uwe, *et al.*) 7: 901
**Syria—structural geology**
*tectonics:* Mesozoic and Cenozoic deformation inferred from seismic stratigraphy in the southwestern intracontinental Palmyride fold-thrust belt, Syria
(Chaimov, Thomas A., *et al.*) 6: 704
**tectonics** *see also* faults; folds; orogeny; plate tectonics; structural analysis; *see also under* structural geology *under* Great Basin; Idaho; Malawi; Nevada; Rocky Mountains; Syria; Washington
**tektites—distribution**
*microtektites:* Geological evidence for a strewn field of impact spherules in the early Precambrian Hamersley Basin of Western Australia; with Suppl. Data 92-17
(Simonson, Bruce M.) 7: 829
**Tennessee—sedimentary petrology**
*diagenesis:* Eustatic control on early dolomitization of cyclic peritidal carbonates; evidence from the Early Ordovician upper Knox Group, Appalachians
(Montanez, Isabel P., *et al.*) 7: 872
**tephrochronology** *see under* geochronology
**Tertiary** *see also under* geochronology *under* Colorado Plateau; Utah; *see also under* stratigraphy *under* USSR
**Texas—engineering geology**
*rock mechanics:* Permeability and fracture patterns in extrusive volcanic rocks; implications from the welded Santana Tuff, Trans-Pecos Texas
(Fuller, Carla M., *et al.*) 11: 1485
**Texas—geochronology**
*Proterozoic:* Middle Proterozoic geologic evolution of Llano Uplift, Texas; evidence from U-Pb zircon geochronometry
(Walker, Nicholas) 4: 494
**Texas—stratigraphy**
*Quaternary:* Clastic sequences developed during late Quaternary glacio-eustatic sea-level fluctuations on a passive margin; example from the inner continental shelf near Barnegat Inlet, New Jersey: Discussion
(Thomas, Mark A.) 10: 1386
— Clastic sequences developed during late Quaternary glacio-eustatic sea-level fluctuations on a passive margin; example from the inner continental shelf near Barnegat Inlet, New Jersey: Reply
(Ashley, Gail M., *et al.*) 10: 1387
**thermoluminescence** *see under* geochronology
**thrust faults** *see under* displacements *under* faults
**trace elements** *see under* geochemistry *under* Andes; California; Chile; Colorado; lava; Mexico; Oregon; Saskatchewan; Saudi Arabia
**tracks and trails** *see* ichnofossils

**Triassic** *see also under* stratigraphy *under* New Mexico; North America
**tritium** *see also* deuterium; hydrogen
**underground water** *see* ground water
**United Kingdom** *see also* England; Scotland; Wales
**United States** *see also* Alaska; Arizona; California; Colorado; Florida; Hawaii; Idaho; Illinois; Kentucky; Louisiana; Maine; Maryland; Missouri; Montana; Nevada; New Hampshire; New Jersey; New Mexico; New York; Oregon; Pennsylvania; Tennessee; Texas; Utah; Virginia; Washington; West Virginia; Western U.S.
**USSR—earthquakes**
*seismicity:* Structural and seismic evidence for intracontinental subduction in the Peter the First Range, Central Asia (Hamburger, Michael W., *et al.*) 4: 397
**USSR—stratigraphy**
*Mesozoic:* Structural and seismic evidence for intracontinental subduction in the Peter the First Range, Central Asia (Hamburger, Michael W., *et al.*) 4: 397
*Tertiary:* Structural and seismic evidence for intracontinental subduction in the Peter the First Range, Central Asia (Hamburger, Michael W., *et al.*) 4: 397
**USSR—tectonophysics**
*plate tectonics:* Structural and seismic evidence for intracontinental subduction in the Peter the First Range, Central Asia (Hamburger, Michael W., *et al.*) 4: 397
**Utah—geochronology**
*Tertiary:* New age determinations of central Colorado Plateau laccoliths, Utah; recognizing disturbed K-Ar systematics and re-evaluating tectonomagmatic relationships (Nelson, Stephen T., *et al.*) 12: 1547
**Utah—structural geology**
*deformation:* Footwall deformation along Willard Thrust, Sevier orogenic belt; implications for mechanisms, timing, and kinematics (Evans, James P., *et al.*) 5: 516
*orogeny:* Basement-cover relations, Sevier orogenic belt, northern Utah (Yonkee, W. Adolph) 3: 280
**Utah—tectonophysics**
*crust:* Prevolcanic extensional Seaman breakaway fault and its geologic implications for eastern Nevada and western Utah (Taylor, Wanda J., *et al.*) 3: 255
**valleys** *see under* fluvial features *under* geomorphology
**Vertebrata** *see also* ichnofossils
**vertebrates** *see also* mammals
**vertebrates—biostratigraphy**
*Miocene:* Improved chronologic resolution of the Hawthorn and the Alum Bluff groups in northern Florida; implications for Miocene chronostratigraphy (Bryant, J. Daniel, *et al.*) 2: 208
— Miocene biostratigraphy and biochronology of the Dove Spring Formation, Mojave Desert, California, and characterization of the Clarendonian mammal age (late Miocene) in California (Whistler, David P., *et al.*) 6: 644
**Virginia—sedimentary petrology**
*diagenesis:* Eustatic control on early dolomitization of cyclic peritidal carbonates; evidence from the Early Ordovician upper Knox Group, Appalachians (Montanez, Isabel P., *et al.*) 7: 872
**volcanic features** *see under* geomorphology
**volcanic rocks** *see under* igneous rocks
**volcanism** *see under* volcanology
**volcanoes** *see under* volcanology
**volcanology—volcanism**
*Carboniferous:* An Appalachian isochron; a kaolinized Carboniferous airfall volcanic-ash deposit (tonstein) (Lyons, Paul C., *et al.*) 11: 1515
*explosive eruptions:* Effects of topography on facies and compositional zonation in caldera-related ignimbrites (Valentine, Greg A., *et al.*) 2: 154
*Jurassic:* Jurassic ash-flow sheets, calderas, and related intrusions of the Cordilleran volcanic arc in southeastern Arizona; implications for regional tectonics and ore deposits (Lipman, Peter W., *et al.*) 1: 32
*lava flows:* Eruption and emplacement of flood basalt; an example from the large-volume Teepee Butte Member, Columbia River Basalt Group (Reidel, Stephen P., *et al.*) 12: 1650
*Paleogene:* Time-stratigraphic framework for the Eocene-Oligocene Mogollon-Datil volcanic field, Southwest New Mexico (McIntosh, William C., *et al.*) 7: 851
*periodicity:* Ordovician marine volcanic and sedimentary record of rifting and volcanotectonism; Snowdon, Wales, United Kingdom (Kokelaar, Peter) 11: 1433
*pyroclastic flows:* Incorporation and redistribution of locally derived lithic fragments within a pyroclastic flow; with Suppl. Data 92-28 (Buesch, David C.) 9: 1193
*shield volcanoes:* Hawaiites and related lavas in the Atenguillo Graben, western Mexican volcanic belt; with Suppl. Data 92-35 (Righter, Kevin, *et al.*) 12: 1592
*volcanic fields:* Compositional diversity in late Cenozoic mafic lavas in the Rio Grande Rift and Basin and Range Province, southern New Mexico; with Suppl. Data 92-20 (Anthony, Elizabeth Y., *et al.*) 8: 973
— New age determinations of central Colorado Plateau laccoliths, Utah; recognizing disturbed K-Ar systematics and re-evaluating tectonomagmatic relationships (Nelson, Stephen T., *et al.*) 12: 1547
**volcanology—volcanoes**
*Hawaii:* Volcano growth and evolution of the island of Hawaii; with Suppl. Data 92-34 (Moore, James G., *et al.*) 11: 1471
*Western U.S.:* Crease structures; indicators of emplacement rates and surface stress regimes of lava flows; with Suppl. Data 92-12 (Anderson, Steven W., *et al.*) 5: 615
**Wales—stratigraphy**
*Ordovician:* Ordovician marine volcanic and sedimentary record of rifting and volcanotectonism; Snowdon, Wales, United Kingdom (Kokelaar, Peter) 11: 1433
**Washington—geochronology**
*Eocene:* The Newport Fault; Eocene listric normal faultings, mylonitization, and crustal extension in Northeast Washington and Northwest Idaho (Harms, Tekla A., *et al.*) 6: 745
**Washington—geomorphology**
*glacial geology:* Magnitudes and implications of peak discharges from glacial Lake Missoula (O'Connor, Jim E., *et al.*) 3: 267
**Washington—petrology**
*lava:* Crease structures; indicators of emplacement rates and surface stress regimes of lava flows; with Suppl. Data 92-12 (Anderson, Steven W., *et al.*) 5: 615
— Eruption and emplacement of flood basalt; an example from the large-volume Teepee Butte Member, Columbia River Basalt Group (Reidel, Stephen P., *et al.*) 12: 1650
**Washington—sedimentary petrology**
*sedimentary rocks:* Isotopic provenance of Paleogene sandstones from the accretionary core of the Olympic Mountains, Washington; with Suppl. Data 92-04 (Heller, Paul L., *et al.*) 2: 140
**Washington—structural geology**
*tectonics:* The Newport Fault; Eocene listric normal faultings, mylonitization, and crustal extension in Northeast Washington and Northwest Idaho (Harms, Tekla A., *et al.*) 6: 745
**water** *see also* ground water; hydrogeology; hydrology
**weathering—igneous rocks**
*welded tuff:* Permeability and fracture patterns in extrusive volcanic rocks; implications from the welded Santana Tuff, Trans-Pecos Texas (Fuller, Carla M., *et al.*) 11: 1485
**well-logging—temperature logging**
*interpretation:* Heat flow and subsurface temperature as evidence for basin-scale ground-water flow, North Slope of Alaska (Deming, David, *et al.*) 5: 528

**West Indies** *see also* Bahamas
**West Pacific Ocean Islands—tectonophysics**
*plate tectonics:* Subduction zone infancy; examples from the Eocene Izu-Bonin-Mariana and Jurassic California arcs
(Stern, Robert J., *et al.*) 12: 1621
**West Virginia—geochronology**
*Carboniferous:* An Appalachian isochron; a kaolinized Carboniferous air-fall volcanic-ash deposit (tonstein)
(Lyons, Paul C., *et al.*) 11: 1515
**Western Australia—stratigraphy**
*Archean:* Geological evidence for a strewn field of impact spherules in the early Precambrian Hamersley Basin of Western Australia; with Suppl. Data 92-17
(Simonson, Bruce M.) 7: 829
**Western Hemisphere** *see also* Atlantic Ocean; Central America; North America; Pacific Ocean
**Western Interior—geomorphology**
*glacial geology:* Surface form of the southern Laurentide ice sheet and its implications to ice-sheet dynamics
(Clark, Peter U.) 5: 595
**Western Interior—stratigraphy**
*Cretaceous:* Regional isotopic variations in the Fort Hays Member of the Niobrara Formation, United States Western Interior; primary signals and diagenetic overprinting in a Cretaceous pelagic rhythmite; with Suppl. Data 92-21
(Laferriere, Alan P.) 8: 980
**Western U.S.** *see also* Alaska; California; Colorado; Hawaii; Idaho; Montana; Nevada; Oregon; Utah; Washington
**Western U.S.—petrology**
*lava:* Crease structures; indicators of emplacement rates and surface stress regimes of lava flows; with Suppl. Data 92-12
(Anderson, Steven W., *et al.*) 5: 615
**Western U.S.—structural geology**
*orogeny:* Extension in the Cretaceous Sevier orogen, North American Cordillera; with Suppl. Data 92-13
(Hodges, K. V., *et al.*) 5: 560
**xenoliths** *see under* inclusions
**Xinjiang—stratigraphy**
*Mesozoic:* Sedimentary record and climatic implications of recurrent deformation in the Tian Shan; evidence from Mesozoic strata of the north Tarim, south Junggar, and Turpan basins, Northwest China
(Hendrix, Marc S., *et al.*) 1: 53
**zoogeography** *see* biogeography

# The Geological Society of America Bulletin
# Author Index to Volume 104, No.1-12, 1992


Adam, David P. 4: 409
Al-Saad, Damen 6: 704
Aldrich, Michele L. 3: 367
Anastasio, David J. 8: 944
Anderson, J. Lawford 3: 316
Anderson, Steven W. 5: 615
Anthony, Elizabeth Y. 8: 973
Arvidson, R. E. 4: 456
Ashley, Gail M. 10: 1387
Autin, Whitney J. 2: 233
Awramik, Stanley M. 9: 1138
Backman, J. 8: 954
Baker, Victor R. 3: 267
Baldwin, Suzanne L. 1: 18
Banda, E. 10: 1340
Barazangi, Muawia 6: 704
Barnes, Calvin G. 1: 117
Bartley, John M. 3: 255
Bartsch-Winkler, Susan B. 6: 684
Bassinot, F. 8: 954
Bauer, Rita M. 6: 675
Belasky, Paul 8: 1069
Belknap, Daniel F. 8: 928
Belo de Oliveira, O. 9: 1221
Bentham, Peter 1: 3
Berger, W. H. 8: 954
Bergh, Steffen G. 3: 329
Bertrand-Sarfati, Janine 9: 1138
Bickford, M. E. 3: 316
Bickford, M. E. 4: 456
Bickford, M. E. 9: 1073
Billings, Marland P. 11: 1539
Blackwell, Bonnie A. 3: 352
Blair, Terence C. 6: 762
Bloomer, Sherman H. 12: 1621
Boyer, Steven E. 3: 376
Breyer, John A. 8: 1024
Brimhall, George H. 11: 1456
Bryant, J. Daniel 2: 208
Bryant, Ray B. 2: 242
Buddemeier, Robert W. 10: 1280
Buesch, David C. 9: 1193
Bullard, Thomas F. 2: 219
Burbank, Douglas W. 1: 3
Burbank, Douglas W. 6: 644
Burbank, Douglas W. 9: 1101
Bybell, Laurel M. 7: 814
Camp, Victor E. 4: 379
Capiro, Mirtha 11: 1515
Carmichael, Ian 3: 348
Carmichael, Ian S. E. 12: 1592
Carroll, Alan R. 1: 53
Carten, Richard B. 8: 1031
Castle, Robert O. 12: 1577
Catchings, R. D. 9: 1178
Chadwick, Oliver A. 11: 1456
Chaimov, Thomas A. 6: 704
Chandler, Mark A. 5: 543
Chapin, Charles E. 7: 851
Chen, Weiping 8: 973
Chorowicz, J. 8: 1015
Clague, David A. 11: 1471
Clark, Elizabeth A. 9: 1121
Clark, Peter U. 5: 595
Coates, Anthony G. 7: 814
Collins, Laurel S. 7: 814
Colman, Steven M. 3: 373
Congdon, Roger D. 11: 1515
Cook, Frederick A. 9: 1121
Coombs, Douglas S. 4: 429
Corfield, R. 8: 954
Costa, John E. 3: 362
Cronin, Thomas M. 7: 814
Cullers, Robert L. 3: 316
Dahlstrom, Clinton D. A. 3: 376
Dallmeyer, R. D. 4: 444
Dalziel, Ian W. D. 11: 1497
Danobeitia, J. J. 10: 1340
Davidson, Jon P. 12: 1547
Davis, Gregory A. 3: 350
De Rito, Robert F. 5: 528
Delaney, M. 8: 954
Deming, David 5: 528
DePaolo, Donald J. 10: 1264
Deville, Eric 2: 127
Devlin, William J. 11: 1403
Dickinson, William R. 3: 347
Dix, George R. 3: 303
Dowsett, Harry J. 7: 814
Dredge, Marlene 9: 1121
Dunbar, Robyn Wright 7: 802
Dunn, John F. 6: 659
Dunne, Thomas 7: 887
Ehrlich, Robert 3: 355
El Kaliouby, B. 4: 456
England, Richard W. 5: 606
Erdmer, P. 1: 106
Evans, Howard T., Jr. 11: 1515
Evans, James P. 5: 516
Fedo, Christopher M. 4: 481
Ferm, John C. 3: 355
Fink, Jonathan H. 5: 615
Flemings, Peter B. 11: 1403
Follo, Michael F. 12: 1561
Forman, Steven L. 8: 1064
Foster, David A. 2: 176
Frisch, Wolfgang 10: 1301
Fudral, Serge 2: 127
Fuller, Carla M. 11: 1485
Furlong, Kevin P. 2: 219
Gaddis, Lisa R. 6: 695
Gardner, Thomas W. 2: 219
Gebran, Ali 6: 704
Geissman, John W. 8: 1031
George, Annette D. 5: 570
Geraghty, Ennis P. 8: 1031
Gilmore, Thomas D. 12: 1577
Gonzales, Juan Luis 8: 928
Gordon, Richard G. 3: 365
Graaskamp, Garrett W. 8: 1031
Graham, Stephan A. 1: 53
Greeley, Ronald 3: 371
Greenlee, Stephen M. 11: 1403
Gregg, Jay M. 6: 675
Griffin, Tom 3: 316
Grist, A. M. 1: 106
Grunow, Anne M. 11: 1497
Guest, John E. 3: 371
Hagen, R. 8: 954
Hagstrum, Jonathan T. 1: 32
Hallock, Pamela 8: 928
Hamburger, Michael W. 4: 397
Harbor, Jonathan M. 10: 1364
Harland, W. B. 10: 1231
Harms, Tekla A. 6: 745
Harris, Anita G. 8: 915
Harrison, T. Mark 1: 18
Harrison, T. Mark 2: 176
Harrison, T. Mark 11: 1497
Hauser, Ernest C. 10: 1315
Heap, Tim 6: 631
Hearty, Paul J. 4: 471
Heizler, Matthew T. 11: 1497
Heller, Paul L. 2: 140
Hendricks, David M. 11: 1456
Hendrix, Marc S. 1: 53
Hequette, Arnaud 8: 1059
Herzig, Charles T. 10: 1292
Hess, J. C. 11: 1515
Hine, Albert C. 8: 928
Hodges, K. V. 5: 560
Hodges, K. V. 11: 1389
Hoffer, Jerry M. 8: 973
Hoisch, Thomas D. 2: 176
Holbrook, John M. 7: 802
Holl, James E. 8: 944
Hooper, Peter R. 4: 379
Hudec, Michael R. 9: 1086
Hudson, Mark R. 5: 581
Hussain, Ahmad 8: 915
Ingersoll, Raymond V. 10: 1264
Ingersoll, Raymond V. 12: 1637
Iverson, Richard M. 3: 362
Jackson, Jeremy B. C. 7: 814
James, Eric William 10: 1326
Janecek, T. R. 8: 954
Jansen, E. 8: 954
Johansson, L. 4: 444
Johnson, J. G. 9: 1208
Johnston, Mike R. 4: 429
Jolly, Arthur D. 6: 779
Jung, Peter 7: 814
Karlstrom, Karl E. 3: 329
Kaufman, Darrell S. 1: 40
Kay, Suzanne Mahlburg 8: 999
Kieffer, Susan W. 2: 154
Kimbrough, David L. 4: 429
Kistler, R. W. 1: 117
Klein, George DeVries 2: 166
Kokelaar, Peter 11: 1433
Krissek, Lawrence A. 8: 954
Kroenke, L. W. 8: 954
Kupperman, Jennifer B. 2: 166
Lachenbruch, Arthur H. 5: 528
Ladeira, E. A. 9: 1221
Laferriere, Alan P. 8: 980
Lagabrielle, Yves 2: 127
Landis, Charles A. 4: 429
Lange, C. 8: 954
Larkin, Randall G. 12: 1608
Law, B. E. 2: 192
Laymon, Charles A. 9: 1169
Leckie, M. 8: 954
Lewis, Christopher J. 11: 1456
Lewry, J. F. 9: 1073
Li, Yuan-Hui 10: 1280
Lind, I. Lykke 8: 954
Linn, Anne M. 10: 1264
Lipman, Peter W. 1: 32
Lipman, Peter W. 3: 347
Litak, Robert K. 10: 1315
Locker, Stanley D. 8: 928
Lucas, Spencer 8: 993
Lux, D. 11: 1389
Lyle, M. 8: 954
Lyons, Paul C. 11: 1515
MacFadden, Bruce J. 2: 208
Macfarlane, A. M. 11: 1389
Machado, N. 9: 1221
Macklin, Mark G. 6: 631
Major, Jon J. 3: 362
Marsaglia, Kathleen M. 12: 1637
Marsters, J. 8: 954
Marthaler, Michel 2: 127
Mattinson, James M. 4: 429
Mayer, L. A. 8: 954
McIntosh, William C. 7: 851
McKnight, Cleavy L. 1: 53
McPherson, John G. 6: 762
Merle, Olivier 7: 901
Merritts, Dorothy J. 11: 1456
Meschede, Martin 10: 1301

Meyer, Charles E. 4: 409
Meyer, Michael T. 9: 1073
Miller, Calvin F. 2: 176
Miller, Julia M. G. 4: 481
Miller, Kenneth G. 11: 1403
Miller, Martin G. 10: 1376
Mitterer, Richard M. 4: 471
Moench, Robert H. 11: 1541
Molina-Garza, Roberto S. 9: 1156
Moller, C. 4: 444
Montanez, Isabel P. 7: 872
Moore, James G. 11: 1471
Mosher, D. 8: 954
Mountain, Gregory S. 11: 1403
Mpodozis, Constantino 8: 999
Mueller, Paul A. 2: 208
Mullins, Henry T. 3: 303
Mullins, Henry T. 8: 928
Munoz, J. Anton 1: 3
Munoz, Josep Anton 9: 1101
Musgrave, R. 8: 954
Nash, William P. 11: 1515
Nelson, Stephen T. 12: 1547
Neumann, A. C. 8: 928
Neuzil, Christopher E. 3: 369
Neves, Douglas S. 5: 516
Noce, C. M. 9: 1221
Obando, Jorge A. 7: 814
Ocean Drilling Program, Leg 130, Shipboard Scientific Party 8: 954
O'Connor, Jim E. 3: 267
O'Neil, James R. 2: 140
Ort, Michael H. 8: 1048
Outerbridge, William F. 11: 1515
Pavich, Milan J. 3: 373
Pavlis, Terry L. 4: 397
Petersen, Scott W. 1: 117
Pevear, David R. 2: 140
Pinter, Nicholas M. 2: 219
Plint, H. E. 1: 106
Pogue, Kevin R. 8: 915
Popandopulo, Gyorgi A. 4: 397
Prave, Anthony R. 5: 505
Prentice, M. 8: 954
Prestvik, Tore 1: 117
Price, Raymond A. 3: 253
Price, Raymond A. 6: 745
Puigdefabregas, Cai 9: 1101
Ranero, C. R. 10: 1340
Ratte, James C. 7: 851
Read, J. Fred 7: 872
Reidel, Stephen P. 12: 1650
Resig, J. 8: 954
Reynolds, P. H. 1: 106
Rieck, Hugh J. 4: 409
Righter, Kevin 12: 1592
Rind, David 5: 543
Ring, Uwe 7: 901
Rivero, A. 10: 1340
Roobol, M. John 4: 379
Ruedy, Reto 5: 543
Rumsby, Barbara T. 6: 631
Sanford, Richard F. 10: 1236
Sansone, Francis J. 10: 1280
Sarewitz, Daniel R. 4: 397
Sarjeant, William Antony Swithin 3: 367
Sarna-Wojcicki, Andrei M. 4: 409
Sartori, Mario 2: 127
Sass, John H. 5: 528
Savoy, Lauret E. 11: 1412
Sawaf, Tarif 6: 704
Schlische, Roy W. 10: 1246
Schmidt, H. 8: 954
Schmoll, Henry R. 6: 684
Schulein, Benjamin J. 1: 53
Schwarcz, Henry P. 3: 352
Shafiqullah, Muhammad 2: 140
Sharp, John M., Jr. 11: 1485
Sharp, John M., Jr. 12: 1608
Sharp, Warren D. 10: 1292
Shelton, Kevin L. 6: 675
Sheridan, Robert E. 10: 1387
Sheriff, Steven D. 6: 779
Sick, Marc 10: 1301
Simonson, Bruce M. 7: 829
Sleep, Norman H. 3: 365
Slingerland, Rudy 2: 219
Sloan, Doris 6: 716
Smith, David Lee 7: 789
Snee, Lawrence W. 8: 1031
Snow, J. Kent 1: 80
Snow, J. Kent 8: 1067
Snyder, Kent E. 2: 242
Snyder, Stephen W. 8: 928
Sobel, Edward R. 1: 53
Sorlien, C. 8: 1015
Stax, R. 8: 954
Steiner, Maureen B. 8: 993
Stern, Robert J. 12: 1621
Stevens, Calvin H. 8: 1069
Stimac, James A. 6: 728
Stolper, Edward M. 3: 348
Stone, Paul 8: 1069
Storey, M. 8: 954
Sullivan, Kim R. 12: 1547
Sultan, M. 4: 456
Sundvoll, B. 1: 117
Sutter, John F. 7: 851
Sweet, M. L. 11: 1528
Tabor, Rowland W. 2: 140
Takahashi, K. 8: 954
Takayama, T. 8: 954
Tarduno, J. 8: 954
Taylor, Wanda J. 3: 255
Tedesco, Lenore P. 8: 928
Thomas, Mark A. 10: 1386
Tolan, Terry L. 12: 1650
Tribble, Gordon W. 10: 1280
Triplehorn, D. M. 11: 1515
Urrutia-Fucugauchi, Jaime 9: 1156
Vacher, H. L. 4: 471
Valentine, Greg A. 2: 154
Van der Voo, Rob 9: 1156
Verdonck, David 2: 219
Verges, Jaume 1: 3
Visconti, Robert 9: 1208
Waggoner, W. Kent 8: 973
Walker, J. D. 5: 560
Walker, Nicholas 4: 494
Wang Zuoxun 1: 53
Wardlaw, Bruce R. 8: 915
Wark, David A. 6: 728
Weddle, Thomas Kirk 10: 1350
Wellner, Robert W. 10: 1387
Wells, Stephen G. 2: 219
Wernicke, Brian Philip 3: 350
Whipple, Kelin X. 7: 887
Whistler, David P. 6: 644
Wilkens, R. 8: 954
Winslow, Nancy S. 2: 140
Wohl, Ellen E. 6: 770
Wohletz, Kenneth H. 2: 154
Wolff, Roger G. 3: 369
Wu, G. 8: 954
Yin, An 6: 659
Yonkee, W. Adolph 3: 280
Young, Grant M. 7: 840